SOIL SURVEY OF

Blount County, Alabama

United States Department of Agriculture
Soil Conservation Service
In cooperation with
Alabama Department of Agriculture and Industries and
Alabama Agricultural Experiment Station

This is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and agencies of the States, usually the Agricultural Experiment Stations. In some surveys, other Federal and local agencies also contribute. The Soil Conservation Service has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in the period 1966-73. Soil names and descriptions were approved in 1973. Unless otherwise indicated, statements in the publication refer to conditions in the county in 1973. This survey was made cooperatively by the Soil Conservation Service, the Alabama Department of Agriculture and Industries, and the Alabama Agricultural Experiment Station. It is part of the technical assistance furnished to the Blount County Soil and Water Conservation District.

HOW TO USE THIS SOIL SURVEY

THIS SOIL SURVEY contains information that can be applied in managing farms, woodlands, and wildlife areas; in selecting sites for roads, ponds, buildings, and other structures; and in judging the suitability of tracts of land for farming, industry, and recreation.

Locating Soils

All the soils of Blount County are shown on the detailed map at the back of this publication. This map consists of many sheets made from aerial photographs. Each sheet is numbered to correspond with a number on the Index to Map Sheets.

On each sheet of the detailed map, soil areas are outlined and are identified by symbols. All areas marked with the same symbol are the same kind of soil. The soil symbol is inside the area if there is enough room; otherwise, it is outside and a pointer shows where the symbol belongs.

Finding and Using Information

The "Index to Mapping Units" can be used to find information. It lists all the soils of the county in alphabetic order by map symbol and shows the page where each is described. The capability unit and woodland group in which each soil has been placed is indicated in the soil descriptions. For other information, see the "Summary of Tables."

Individual colored maps showing the relative suitability or degree of limitation of soils for many specific purposes can be developed by using the soil map and the information in the text. Translucent material can be used as an overlay over the soil map and colored to show soils that have the same limitation or suitability. For example, soils that have a slight limitation for a given use can be colored green, those with a moderate limitation can be colored yellow, and those with a severe limitation can be colored red.

Farmers and those who work with farmers can learn about use and management of the soils from the soil descriptions and from the descriptions of the capability units and woodland groups.

Foresters and others can refer to the section "Woodland" where the soils of the county are grouped according to their suitability for trees.

Wildlife managers and others can find information about soils and wildlife in the section "Wildlife."

Community planners and others can read about soil properties that affect the choice of sites for nonindustrial buildings and for recreation areas in the section "Town and Country Planning."

Engineers and builders can find, under "Engineering Uses of the Soils," tables that contain test data, estimates of soil properties, and information about soil features that affect engineering practices.

Scientists and others can read about the soils in the section "Formation and Classification of the Soils."

Newcomers in the area may be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the information about the county given in the section "General Nature of the County."

Cover: Coastal bermudagrass hay on Spadra fine sandy loam.

Contents

Issued December 1979

Index to Mapping Units

Summary of Tables

SOIL SURVEY OF BLOUNT COUNTY, ALABAMA

By Charles D. Bowen, Bobby C. Fox, David E. Lewis, E. H. McBride, and H. C. Buckelew, Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service, in cooperation with the Alabama Department of Agriculture and Industries and the Alabama Agricultural Experiment Station

BLOUNT COUNTY is in the northeastern part of Alabama. It has a land area of 409,600 acres, or 640 square miles (fig. 1). The county is in the southern part of the Appalachian Mountain region. Ridges and valleys in this area have a northeast-southwest trend. Many areas in the valleys and on the high plateaus are nearly level to moderately sloping. However, some areas in the valleys and on the plateaus are hilly to steep. The plateaus have steep sides and deeply cut gorges. The terraces and flood plains are nearly level to gently sloping. Elevation in the county ranges from about 425 to 1,500 feet. About 40 percent of the county is used for field crops and pasture. Cotton, soybeans, corn, and tomatoes are the main crops. Poultry is one of the leading farm enterprises. Beef cattle are the main livestock, but hogs and dairy cows are raised on some farms.

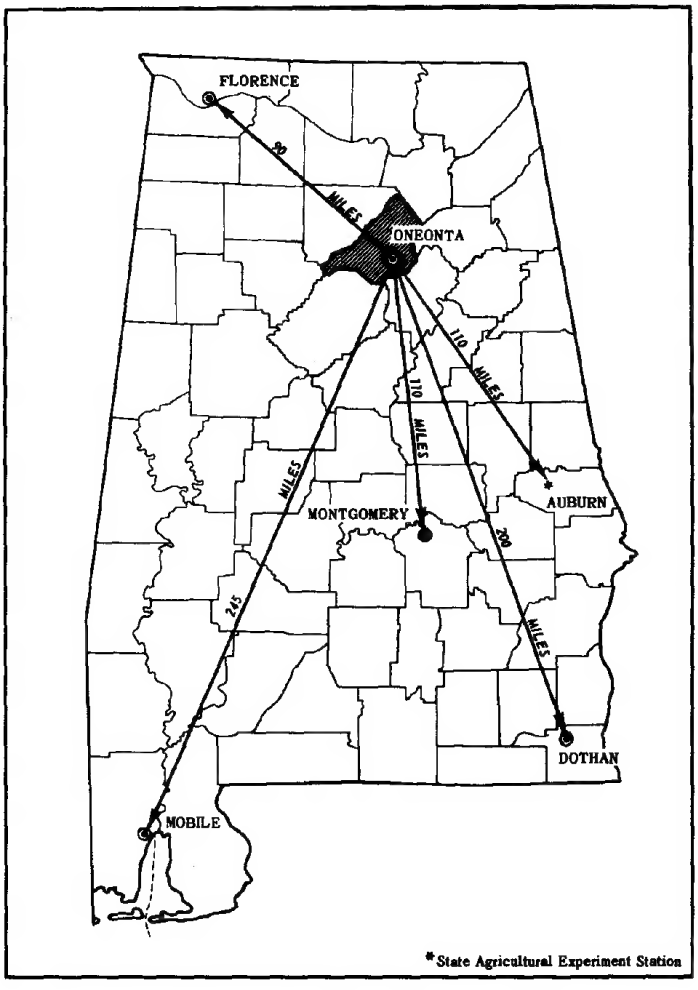


Figure 1.—Location of Blount County in Alabama.

The original vegetation of Blount County was largely forest and some underbrush, small patches of grass, and annual plants. Most of the original forest has been harvested and is now in second and third growth.

The climate in the county is temperate and humid. Rainfall is generally well distributed throughout the year. Winters are usually not severe, and extended periods of severe cold are rare.

In 1970 the population of the county was 26,853. Oneonta, the county seat and the largest town, is in the east-central part of the county. Nonfarm occupations make up about 80 percent of the employment in the county.

Many of the soils in the central and southern parts of the county are not suited to row crops and pasture, because they are steep and are highly susceptible to erosion. They are, however, well suited to trees. The soils on the mountain plateaus are well suited to row crops and pasture. These soils respond well if fertilizer and lime are applied. Many of the soils in the valleys are suited to row crops and pasture. Most of the soils on the terraces and on the flood plains of larger streams are well suited to row crops, pasture, and trees.

How This Survey Was Made

Soil scientists made this survey to learn what kinds of soil are in Blount County, where they are located, and how they can be used. The soil scientists went into the county knowing they would find many soils they had already seen and perhaps some they had not. They observed the steepness, length, and shape of slopes, the size and speed of streams, the kinds of native plants or crops, the kinds of rock, and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface layer down into the parent material that has not been changed much by leaching or by the action of plant roots.

The soil scientists made comparisons among the profiles they studied and they compared these profiles with those in the counties nearby and in places more

distant. They classified and named the soils according to nationwide, uniform procedures. The *soil series* and the *soil phase* are the categories of soil classification most used in a local survey.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer all the soils of one series have major horizons that are similar in thickness arrangement and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. Hartsells and Nectar for example are the names of two soil series. All the soils in the United States having the same series name are essentially alike in those characteristics that affect their behavior in the undisturbed landscape.

Soils of one series can differ in texture of the surface layer, slope, stoniness, or in some other characteristic that affects use of the soils by man. A soil series is divided into phases on the basis of such differences. The name of a soil phase indicates a feature that affects management. For example, Allen loam, 2 to 6 percent slopes, is one of several phases in the Allen series.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, trees, and other details that help in drawing boundaries accurately. The soil map at the back of this publication was prepared from aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning the management of farms and fields, a mapping unit is nearly equivalent to a soil phase. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some kind that have been seen within an area that is dominantly of a recognized soil phase.

Some mapping units are made up of soils of different series, or of different phases within one series. One such unit shown on the soil map of Blount County is a soil complex.

A soil complex consists of areas of two or more soils, so intricately mixed or so small in size that they cannot be shown separately on the soil map. Each area of a complex contains some of each of the two or more dominant soils, and the pattern and relative proportions are about the same in all areas. Generally, the name of a soil complex consists of the names of the dominant soils, joined by a hyphen. Hartsells-Hector complex, 6 to 15 percent slopes is an example.

While a soil survey is in progress, soil scientists take soil samples needed for laboratory measurements and for engineering tests. Laboratory data from the same kind of soil in other places are also assembled. Data on yields of crops under defined practices are also assembled from farm records and from field or plot experiments on the same kind of soil. Yields under a defined management are estimated for all the soils.

Soil scientists observe how soils behave when used as a growing place for native and cultivated plants and as material, foundation, or covering for structures. They relate this behavior to properties of the soils. For example, they observe that absorption fields for on-site disposal of sewage fail on a given kind of soil, and they relate this to the slow permeability of the soil or its high water table. They see that streets, road pavements, and foundations for houses are cracked on a named kind of soil and they relate this failure to the high shrink-swell potential of the soil material. Thus, they use observation and knowledge of soil properties, together with available research data, to predict limitations or suitability of soils for present and potential uses.

After data have been collected and tested for the key, or benchmark, soils in a survey area, the soil scientists set up trial groups of soils. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others. They then adjust the groups according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under current methods of use and management.

General Soil Map

The general soil map at the back of this survey shows, in color, the soil associations in Blount County, Alabama. A soil association is a landscape that has a distinctive proportional pattern of soils. It typically consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in Blount County, who want to compare different parts of Blount County, or who want to know the location of large tracts that are suitable for a certain kind of land use. Such a map is a useful general guide in managing a watershed, a wooded tract, or a wildlife area, or in planning engineering works, recreational facilities, and community developments. It is not suitable for planning the management of a farm or field or for selecting the exact location of a road, building, or similar structure, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect their management.

The soil associations in this survey have been grouped into four general kinds of landscape for broad interpretative purposes. Each of the broad groups and their included soil associations are described in the following pages.

Areas Dominated by Steep to Very Steep Soils That Formed in Material Weathered from Sandstone and Shale

The soils in these areas range from shallow to deep. These well drained and somewhat excessively drained soils are mainly on uplands and are on foot slopes in some places.

About 85 to 90 percent of the acreage is wooded. The areas generally have a good potential for campsites, riding or hiking trails, and hunting preserves. The steep to very steep slopes limit urban development.

Soil associations 1, 2, and 3 are in this group and make up 37 percent of the county.

1. Hector-Rock outcrop-Allen association

Shallow and deep, well-drained soils and rock outcrop on uplands and foot slopes

This association consists of very steep mountain sides and gently sloping to steep foot slopes. Ledges of exposed sandstone bedrock frequently are at or near the mountaintop and extend for several miles with only an occasional intervening gap or drainageway. This association is characterized by very narrow V-shaped valleys, mountainsides that generally have slopes of 10 to 45 percent, and foot slopes that have slopes of 2 to 25 percent. The stream pattern is not well pronounced.

This association makes up about 17 percent of the county. It is 50 percent Hector soils, 20 percent rock outcrop, and 15 percent Allen soils. Hartsells, Linker, and Nectar soils make up the remaining 15 percent.

Hector soils are on mountainsides. The surface layer is dark grayish brown and yellowish brown fine sandy loam, and the subsoil is yellowish brown sandy loam. Depth to bedrock is 8 to 20 inches.

Rock outcrop consists of ledges or large boulders on mountainsides. They are intermingled with Hector soils.

Allen soils are on foot slopes. The surface layer is dark brown loam, and the subsoil is yellowish red loam to a depth of 50 inches, yellowish red sandy loam to a depth of 70 inches, and red sandy clay loam to a depth of 88 inches.

Hartsells and Linker soils are on mountain plateaus. Nectar soils are on ridges and side slopes.

About 20 percent of this association is wooded. The trees are mainly hardwoods on mountainsides and second-growth pine on foot slopes. Most of the farms are small and are operated part time by the owners. Most are general farms, but beef cattle, swine, or poultry are the main source of income on a few. Because of slope and other soil characteristics, most of this association is better suited to forest than to most other uses. This association could be developed into campsites, hunting areas, or riding and hiking trails. Slope and depth to bedrock slightly to severely limit this association for urban uses.

2. Townley-Montevallo association

Moderately deep and shallow, well drained soils on uplands

This association consists of steep to very steep mountains. The association is dissected by many intermittent and perennial streams. It is characterized by a dendritic stream pattern, narrow V-shaped stream valleys, narrow flood plains, mountainsides that have slopes of 15 to 45 percent, and long narrow ridgetops that have slopes of 2 to 15 percent.

This association makes up about 19 percent of the county. It is 35 percent Townley soils and 30 percent Montevallo soils. Albertville, Nectar, Ellisville, Hamblen, and Spadra soils make up the remaining 35 percent.

Townley soils are on side slopes and ridges. The surface layer is brown silty clay loam, and the subsoil is yellowish red and strong brown clay. Depth to bedrock is 20 to 40 inches.

Montevallo soils are on steep side slopes and ridges. The surface layer is very dark grayish brown and yellowish brown shaly silt loam, and the subsoil is pale olive shaly silt loam. Depth to soft shale is 10 to 20 inches.

Albertville and Nectar soils are on ridges. Ellisville and Hamblen soils are on flood plains along narrow drainageways and larger streams. Spadra soils are on low stream terraces.

About 85 percent of this association is wooded and 10 percent is in pasture. The remaining 5 percent is in cultivated crops. Most of the farms are small and are operated part time by the owners. Most are general farms, but beef cattle, swine, or poultry are the main source of income on a few. Because of slope and other soil characteristics most of this association is better suited to forest than to most other uses. This association could be developed into campsites, hunting areas, or riding and hiking trails. The slope and depth to bedrock severely limit this association for many urban uses.

3. Palmerdale association

Deep, somewhat excessively drained soils on uplands

This association is a series of ridges formed by spoil and a few open trenches. There is no natural drainage pattern. Slopes are very erratic and range from 2 to 60 percent. Where areas have been smoothed, slope is more uniform and ranges from 2 to 10 percent.

This association makes up about 1 percent of the county. It is 90 percent Palmerdale soils. Montevallo and Townley soils make up the remaining 10 percent.

Palmerdale soils have a dark grayish brown very shaly silt loam surface layer, 5 inches thick, that overlies dark grayish brown very shaly silt loam. Many areas of these soils have large sandstone boulders, pieces of coal, and shale fragments on the surface.

Montevallo soils are on the steeper side slopes and ridges. Townley soils are on the smoother side slopes and ridges.

About 70 percent of this association is idle. The remaining 30 percent is mainly woodland, but a few areas of Palmerdale soils have been smoothed and planted to grasses. Because of slope and other soil characteristics this association is better suited to pine trees than to most other uses. Most of this association is severely limited for recreational development and urban uses.

Areas Dominated by Steep to Very Steep Soils That Formed in Material Weathered Chiefly From Limestone and Cherty Limestone

The soils in these areas range from deep to shallow.

About one half of the acreage consists of well drained to excessively drained soils on uplands, while the rest consists of well drained or excessively drained and moderately well drained soils on uplands and flood plains.

Approximately 85 percent of the acreage is wooded. The remaining 15 percent is divided between small tracts of crops and pasture. The areas have a good potential for campsites, hiking and riding rails, and wildlife development. Steep to very steep slopes and shallow depth of soil over most of the areas severely limit these soils for urban uses.

Soil associations 4, 5, and 6 are in this group and make up 16 percent of the county.

4. *Barfield-Rock outcrop-Remlap association*

Shallow and deep, well drained to excessively drained soils and rock outcrop on uplands

This association consists of rolling to very steep mountainous uplands and foot slopes. The association is not highly dissected by drainageways. It is characterized by narrow V-shaped valleys, narrow flood plains, mountainsides that ordinarily have slopes of 10 to 45 percent, and foot slopes that have slopes of 2 to 15 percent. Sinkholes are common throughout the association.

This association makes up 4 percent of the county. It is 30 percent Barfield soils, 30 percent Rock outcrop, and 20 percent Remlap soils. Decatur, Tupelo, and Wehadkee soils make up the remaining 20 percent.

Barfield soils are on mountainsides and foot slopes. They are intermingled with Rock outcrop. The surface layer is very dark grayish brown silty clay, and the subsoil is dark brown clay. Depth to bedrock is 8 to 20 inches.

Rock outcrop consists of ledges, large rocks, and boulders on mountainsides and foot slopes. Rock outcrop is intermingled with Barfield soils.

Remlap soils are on foot slopes. The surface layer is brown silty clay loam, and the subsoil is dominantly yellowish red clay. Bedrock is below a depth of 5 feet.

Decatur soils are on upland ridges and side slopes. Tupelo soils are on low stream terraces. Wehadkee soils are on flood plains along narrow drainageways.

About 90 percent of this association is wooded. The trees are mainly eastern redcedar and mixed hardwoods on mountainsides and second growth pine on foot slopes. The remaining 10 percent of the association is in pasture and cultivated crops. Most of the farms are small and are operated part time by the owners. Most are general farms, but beef cattle are the main source of income on a few. Several limestone quarries are in this association. The limestone is high quality and is used for the production of lime, cement, and crushed rock. Because of slope and other soil characteristics most of this association is better suited to forest than to most other uses. This association could be developed into campsites, hunting areas, or riding and hiking trails. The very steep slopes and shallow depth to bedrock severely limit this association for many urban uses.

5. *Bodine-Fullerton-Hamblen association*

Deep, excessively drained to moderately well drained soils on uplands and flood plains

This association consists of gently sloping to very steep uplands and nearly level flood plains. The association is dissected by many intermittent and perennial streams. It is characterized by a dendritic stream pattern, narrow V-shaped valleys, relatively broad flood plains, long narrow ridgetops that have slopes of 2 to 15 percent, and areas between drainageways and ridgetops that have slopes of 15 to 45 percent. A few sinkholes are in this association.

This association makes up about 8 percent of the county. It is 55 percent Bodine soils, 20 percent Fullerton soils, and 15 percent Hamblen soils. Decatur, Lobelville, Minvale, and Stemley soils make up the remaining 10 percent.

Bodine soils are on ridges and side slopes. The surface layer is pale brown cherty silt loam. The upper part of the subsoil is strong brown cherty clay loam and cherty loam, the middle part is yellowish red very cherty clay loam, and the lower part is mottled brownish yellow and yellowish brown very cherty clay loam. Depth to bedrock is more than 5 feet.

Fullerton soils are on ridges and side slopes. The surface layer is yellowish brown cherty silt loam, and the subsoil is red cherty clay. Depth to bedrock is more than 6 feet.

Hamblen soils are on flood plains. The surface layer is dark brown loam, and the subsoil is dark yellowish brown and yellowish brown loam.

Decatur soils are on upland ridges and side slopes. Lobelville soils are on flood plains along narrow drainageways. Minvale soils are on foot slopes. Stemley soils are on stream terraces.

About 80 percent of this association is wooded. The remaining 20 percent of the association is in pasture and cultivated crops. Most of the farms are small and operated part time by the owners. Most are general farms, but beef cattle, swine, poultry, or dairying are the main sources of income on a few. There are several chert pits in this association. Most of the chert is used locally as a base material for roads. Because of slope and other soil characteristics, most of the association is better suited to forest than to most other uses. This association could be developed into campsites, hunting areas, and riding and hiking trails. This association is slightly to severely limited for many urban uses.

6. *Bodine-Hector-Barfield association*

Deep and shallow, well drained to excessively drained soils on uplands

This association consists of steep to very steep mountainsides. The areas of Bodine soils are highly dissected by intermittent and perennial streams in a dendritic pattern. The areas of Hector and Barfield soils are not highly dissected by intermittent and perennial streams, and the stream pattern is parallel. This association is characterized by very narrow V-shaped valleys, very narrow flood plains, and mountainsides

and ridges that ordinarily have slopes of 15 to 45 percent. Sinkholes are common throughout this association.

This association makes up about 4 percent of the county. It is 45 percent Bodine soils, 25 percent Hector soils, and 18 percent Barfield soils. Allen, Fullerton, and Remlap soils make up the remaining 12 percent.

Bodine soils are very steep and on mountainsides and generally have a northwesterly aspect. The surface layer is pale brown cherty silt loam. The upper part of the subsoil is strong brown cherty loam, the middle part is yellowish red very cherty clay loam, and the lower part is mottled brownish yellow and yellowish red very cherty clay loam. Depth to bedrock is more than 5 feet.

Hector soils are on the crest of the mountain ridge that slopes generally in a southeasterly direction. The surface layer is dark grayish brown and yellowish brown fine sandy loam, and the subsoil is yellowish brown sandy loam. Depth to bedrock is 8 to 20 inches.

Barfield soils form a discontinuous band at the base of mountainsides. They have a southeasterly aspect. The surface layer is very dark grayish brown silty clay, and the subsoil is dark brown clay. Depth to bedrock is 8 to 20 inches.

Allen, Fullerton, and Remlap soils are on foot slopes.

About 90 percent of this association is wooded. The trees are mainly mixed hardwoods. The remaining 10 percent of this association is in pasture and cultivated crops. Most of the farms are small and are operated part time by the owners. Most are general farms, but beef cattle are the main source of income on a few. There are several chert pits in this association. Most of the chert is used locally as a base material for roads. There are two active limestone quarries in this association. One quarry produces lime and cement, while the other produces crushed limestone rock that is used in highway and street construction. Because of slope and other soil characteristics, this association is better suited to forest than to most other uses. This association could be developed into campsites, hunting areas, or riding and hiking trails. It is severely limited for many urban uses.

Areas Dominated by Gently Sloping to Strongly Sloping Soils that Formed in Material Weathered from Sandstone and Shale

The soils in these areas range from shallow to deep. The areas consist of well drained and moderately well drained soils on uplands.

These upland plateau areas make up a major part of the good farm land in the county. About 55 percent of the acreage is cleared and used for crops and pasture. The remaining 45 percent is wooded. Much of the wooded area has a high potential for campsites, hiking and riding trails, and hunting preserves. Slope and depth to bedrock are the major limitations for urban development.

Soil associations 7, 8, and 9 are in this group and make up 43 percent of the county.

7. Linker-Hartsells-Hector association

Moderately deep and shallow, well drained soils on uplands

This association consists of gently sloping to strongly sloping upland plateaus and steep to very steep side slopes. It is characterized by narrow V-shaped stream valleys, very narrow flood plains, divides between streams which form broad ridges that ordinarily have slopes of 2 to 15 percent, and valley walls along larger streams that have slopes of 15 to 45 percent.

This association makes up about 18 percent of the county. It is 40 percent Linker soils, 35 percent Hartsells soils, and 10 percent Hector soils. Hanceville, Nectar, and Wynnville soils and Rock outcrop make up the remaining 15 percent.

Linker soils are on ridges and side slopes. The surface layer is dark yellowish brown fine sandy loam, and the subsoil is yellowish red or red loam. Depth to bedrock is 20 to 40 inches.

Hartsells soils are on ridges and side slopes. The surface layer is yellowish brown sandy loam, and the subsoil is yellowish brown or strong brown loam. Depth to bedrock is 20 to 40 inches.

Hector soils are steep and are on side slopes along drainageways. The surface layer is dark grayish brown and yellowish brown fine sandy loam, and the subsoil is yellowish brown sandy loam. Depth to bedrock is 8 to 20 inches.

Hanceville and Nectar soils are on ridges and side slopes. Rock outcrop is on side slopes. Wynnville soils are on ridges.

About 60 percent of this association is cleared and used for cultivated crops and pasture. The remaining 40 percent of this association is wooded. The trees are mainly second-growth pine. Most of the farms are small. Many of the farms specialize in truck crops, and tomatoes and watermelons are the principal crops. Peach orchards, beef cattle, swine, or poultry are the main source of income on a few farms. Most of this association is well suited to truck crops, orchards, or general farming. This association could be developed into campsites, hunting areas, or riding and hiking trails. The slope and depth to bedrock moderately to severely limit this association for many urban uses.

8. Hartsells-Hector-Wynnville association

Shallow to deep, well drained and moderately well drained soils on uplands

This association consists of gently sloping to strongly sloping upland plateaus and steep to very steep side slopes. It is characterized by narrow V-shaped stream valleys, narrow flood plains, divides between the streams which form broad ridges that ordinarily have a slope of 2 to 10 percent, and valley walls along larger streams that have slopes of 10 to 45 percent.

This association makes up about 17 percent of the county. It is 43 percent Hartsells soils, 20 percent Hector soils, and 20 percent Wynnville soils. Albertville and Linker soils make up the remaining 17 percent.

Hartsells soils are on ridges and side slopes. The surface layer is dark yellowish brown fine sandy loam, and the subsoil is yellowish brown or strong brown loam. Depth to bedrock is 20 to 40 inches.

Hector soils are steep and are on side slopes along drainageways. The surface layer is dark grayish brown and yellowish brown fine sandy loam, and the subsoil is yellowish brown sandy loam. Depth to bedrock is 8 to 20 inches.

Wynnville soils are on broad, gently sloping ridges. The surface layer is yellowish brown fine sandy loam, and the subsoil is yellowish brown loam. These soils have a fragipan at a depth of about 23 inches. Bedrock is below a depth of 4 feet.

Albertville and Liker soils are on ridges and side slopes.

About 55 percent of this association is cleared and used for cultivated crops and pasture. The remaining 45 percent is wooded. The trees are mainly second-growth pine. Most of the farms are small, and many are operated full time by the owners. On most farms cotton and soybeans are the main cash crops, but beef cattle, swine, or poultry are the main source of income on a few. Most of this association is well suited to general farming, truck crops, and orchards. This association could be developed into campsites, hunting areas, or riding and hiking trails. Depth to bedrock moderately to severely limits this association for many urban uses.

9. Albertville-Nectar-Linker association

Deep and moderately deep, well drained soils on uplands

This association consists of gently sloping to strongly sloping uplands. It is characterized by narrow V-shaped stream valleys, very narrow flood plains, divides between the streams which form broad ridges that ordinarily have slopes of 2 to 15 percent, and valley walls along streams which have slopes of 15 to 45 percent.

This association makes up about 8 percent of the county. It is 40 percent Albertville soils, 25 percent Nectar soils, and 20 percent Linker soils. Hector, Leadvale, Montevallo, and Townley soils make up the remaining 15 percent.

Albertville soils are on ridges and side slopes. The surface layer is yellowish brown silt loam, and the subsoil is yellowish brown or strong brown silty clay. Bedrock is below a depth of 3 feet.

Nectar soils are on ridges and side slopes. The surface layer is brown silt loam, and the subsoil is red silty clay loam. Bedrock is below a depth of 4 feet.

Linker soils are on ridges and side slopes. The surface layer is dark yellowish brown fine sandy loam, and the subsoil is yellowish red or red loam. Depth to bedrock is 20 to 40 inches.

Hector, Montevallo, and Townley soils are steep to very steep and are on side slopes. Leadvale soils are on stream terraces.

About 55 percent of this association is in cultivated crops and pasture. The remaining 45 percent is wooded. Trees are mainly second-growth pine. Most of the farms are small, and many are operated full time by the owners. Most are general farms, but beef cattle, swine, poultry, or truck crops are the main source of income on a few. The main truck crops are tomatoes and watermelons. Most of the acreage of this association is suited to cultivated crops or pasture. This association could be developed into campsites, hunting areas, or riding and hiking trails. The clayey subsoil and depth to bedrock moderately to severely limit this association for many urban uses.

Areas Dominated by Nearly Level to Strongly Sloping Soils that Formed in Material Weathered from Limestone and Cherty Limestone

The soils in these areas are deep. The areas consist of well drained, moderately well drained, and somewhat poorly drained soils on uplands, stream terraces, and flood plains.

About 60 percent of the area is cleared and used for pasture and cultivated crops. The remaining 40 percent is wooded. Some of the areas have a good potential for campsites, hiking and riding trails, and hunting preserves. The clayey nature of the upland and terrace soils moderately to severely limit these soils for urban development. Soils on the flood plains are severely limited for urban uses.

Soil associations 10 and 11 are in this group and make up 4 percent of the county.

10. Remlap-Decatur-Tupelo association

Deep, well drained and somewhat poorly drained soils on uplands and low stream terraces

This association consists of gently sloping to strongly sloping uplands and low stream terraces. It is characterized by relatively broad stream valleys, narrow flood plains, divides between the streams that form ridges that ordinarily have slopes of 2 to 15 percent, and low stream terraces that have slopes of 0 to 2 percent.

This association makes up about 2 percent of the county. It is 42 percent Ramlap soils, 30 percent Decatur soils, and 18 percent Tupelo soils. Berfield, Hamblen, and Minvale soils make up the remaining 10 percent.

Remlap soils are on upland ridges and side slopes. The surface layer is brown silty clay loam, and the subsoil is dominantly yellowish red clay. Bedrock is below a depth of 6 feet.

Decatur soils are on upland ridges and side slopes. The surface layer is dark reddish brown loam, and the subsoil is dark red clay. Bedrock is below a depth of 6 feet.

Tupelo soils are on low stream terraces. The surface layer is dark yellowish brown silt loam, and the subsoil is olive brown clay that has gray mottles at a depth of 18 inches. Bedrock is below a depth of 4 feet.

Barfield soils are on side slopes. Hamblen soils are on flood plains. Minvale soils are on upland ridges.

About 60 percent of this association is cleared and is in pasture and cultivated crops. The remaining 40 percent is wooded. The trees are mainly mixed hard-

woods. The farms are larger in this area than the county average. Most of the farms are operated full time by the owners. Some are general farms, but beef cattle or cotton is the main source of income on most. The soils in this association are well suited to pasture. This association could be developed into campsites, hunting areas, or riding and hiking trails. The clayey subsoil moderately to severely limits this association for many urban uses.

11. Minvale-Fullerton-Lobelville association

Deep, well drained and moderately well drained soils on uplands and flood plains

This association consists of gently sloping to strongly sloping uplands and nearly level flood plains. It is characterized by relatively broad stream valleys, generally narrow flood plains, divides between the streams that form ridges that ordinarily have slopes of 2 to 15 percent, and flood plains that have slopes of 0 to 2 percent.

This association makes up about 2 percent of the county. It is 40 percent Minvale soils, 30 percent Fullerton soils, and 15 percent Lobelville soils. Decatur, Ennis, Stemley, Taft, and Wehadkee soils make up the remaining 15 percent.

Minvale soils are on ridges and side slopes. The surface layer is dark brown silt loam, and the subsoil is yellowish red cherty silt loam and cherty silty clay loam. Bedrock is below a depth of 6 feet.

Fullerton soils are on ridges and side slopes. The surface layer is yellowish brown cherty loam, and the subsoil is red cherty clay. Bedrock is below a depth of 6 feet.

Lobelville soils are on flood plains. The surface layer is dark brown cherty silt loam, and the subsoil is yellowish brown cherty loam that has gray mottles at a depth of 19 inches.

Decatur soils are on ridges and side slopes. Ennis and Wehadkee soils are on flood plains. Stemley and Taft soils are on stream terraces.

About 60 percent of this association is cleared and is in pasture and cultivated crops. The remaining 40 percent is wooded. The trees are mainly second-growth pine on the uplands and mixed hardwoods on stream terraces and flood plains. The farms are larger in this area than the county average. Most farms are operated full time by the owners. Some farms have a combination beef cattle and poultry operation. A few are general farms. Most of the acreage of this association is well suited to pasture. This association could be developed into campsites, hunting areas, or riding and hiking trails. Most of the uplands are slightly to moderately limited for urban uses, and most of the flood plains are severely limited for urban uses.

Descriptions of the Soils

This section describes each soil series in detail and then briefly, each mapping unit in that series. Unless it states otherwise, what is stated about the soil series holds true for the mapping units in that series. Thus, to get full information about any one mapping unit, it is necessary to read both the description of the mapping unit and the description of the soil series to which it belongs.

An important part of the description of each soil series is the soil profile, that is, the sequence of layers from the surface down to rock or other underlying material. Each series contains two descriptions of the profile. The first is brief and in terms familiar to the layman. The second is more detailed and is included for those who need to make thorough and precise studies of soils. The profile described in the series is representative for mapping units in that series. If the profile of a given mapping unit is different from the one described for the series, these differences are stated in describing the mapping unit, or they are differences that are apparent in the name of the mapping unit. Color terms are for moist soil unless otherwise stated.

Preceding the name of each mapping unit is a symbol that identifies the mapping unit on the detailed soil map. Listed at the end of each description of the mapping unit are the capability unit and woodland suitability group in which the mapping unit has been placed. A discussion of woodland suitability groups is given in the section "Woodland." For a complete description of the capability unit, read "Capability grouping" and the description of the individual unit in "Management by capability units."

The acreage and proportionate extent of each mapping unit are shown in table 1. Many of the terms used in describing soils can be found in the Glossary, and more detailed information about the terminology and methods of soil mapping can be obtained from the Soil Survey Manual (*9*).[1]

Albertville Series

The Albertville series consists of deep, well drained, gently sloping to strongly sloping soils on uplands. These soils formed in material weathered mainly from shale.

In a representative profile the surface layer is yellowish brown silt loam about 6 inches thick. The upper 9 inches of the subsoil is brownish yellow, friable silty clay loam, the middle 19 inches is strong brown, firm silty clay, and the lower 13 inches is yellow, firm silty clay that has strong brown and white mottles. The underlying material is soft shale. Consolidated shale is at a depth of 66 inches.

Permeability is moderately slow. Available water capacity is medium.

Most of the acreage is cleared and is in row crops and pasture. The rest is wooded and consists mainly of second-growth pine. The more nearly level areas are suited to row crops.

Representative profile of Albertville silt loam, 2 to 6 percent slopes, ½ mile west of Fairview Church, NW¼NW¼ sec. 32, T. 12 S., R. 1 E.:

[1]Italic numbers in parentheses refer to Literature Cited, p. 71.

TABLE 1.—*Approximate acreage and proportionate extent of the soils*

Soil	Acres	Percent	Soil	Acres	Percent
Albertville silt loam, 2 to 6 percent slopes	6,426	1.6	Linker fine sandy loam, 6 to 10 percent slopes	22,209	5.4
Albertville silt loam, 6 to 10 percent slopes	10,832	2.6	Linker fine sandy loam, 10 to 15 percent slopes	6,560	1.6
Albertville silt loam, 10 to 15 percent slopes	3,342	.8	Linker-Hector complex, 2 to 10 percent slopes	2,873	.7
Allen loam, 2 to 6 percent slopes	2,369	.6	Lobelville cherty silt loam	2,120	.5
Allen loam, 6 to 10 percent slopes	4,303	1.1	Minvale silt loam, 2 to 6 percent slopes	2,425	.6
Allen loam, 10 to 15 percent slopes	3,586	.9	Minvale silt loam, 6 to 10 percent slopes	2,065	.5
Allen loam, 15 to 25 percent slopes	2,377	.6	Montevallo-Townley complex, 6 to 15 percent slopes	1,891	.5
Barfield-Rock outcrop complex	12,740	3.1	Montevallo-Townley complex, 15 to 45 percent slopes	47,409	11.6
Bodine cherty silt loam, 6 to 15 percent slopes	5,105	1.2	Nectar silt loam, 2 to 6 percent slopes	4,790	1.2
Bodine cherty silt loam, 15 to 45 percent slopes	21,101	5.2	Nectar silt loam, 6 to 10 percent slopes	6,220	1.5
Crevasse loamy fine sand	950	.2	Nectar silt loam, 10 to 15 percent slopes	2,090	.5
Decatur loam, 2 to 6 percent slopes	1,293	.3	Palmerdale very shaly silt loam	6,030	1.5
Decatur loam, 6 to 10 percent slopes	646	.1	Remlap silty clay loam, 2 to 6 percent slopes, eroded	3,600	.9
Decatur silty clay loam, 4 to 15 percent slopes, eroded	621	.1	Remlap silty clay loam, 6 to 10 percent slopes, eroded	2,127	.5
Ellisville silt loam	4,020	1.0	Remlap silty clay loam, 10 to 15 percent slopes, eroded	1,031	.3
Ennis cherty silt loam	360	.1	Spadra fine sandy loam	2,900	.7
Fullerton cherty silt loam, 2 to 6 percent slopes	1,435	.4	Stemley cherty loam, 2 to 6 percent slopes	2,250	.5
Fullerton cherty silt loam, 6 to 10 percent slopes	5,454	1.3	Taft silt loam	490	.1
Fullerton cherty silt loam, 10 to 15 percent slopes	2,909	.7	Townley silty clay loam, 2 to 6 percent slopes	1,025	.3
Hamblen loam	7,520	1.8	Townley silty clay loam, 6 to 15 percent slopes	9,275	2.3
Hanceville loam, 2 to 6 percent slopes	755	.2	Tupelo silt loam	1,492	.4
Hanceville loam, 6 to 10 percent slopes	735	.2	Wehadkee soils	2,550	.6
Hartsells fine sandy loam, 2 to 6 percent slopes	12,460	3.0	Wynnville fine sandy loam, 2 to 6 percent slopes	16,700	4.1
Hartsells fine sandy loam, 6 to 10 percent slopes	33,540	8.2	Water (Rivers and Ponds)	2,191	.5
Hartsells-Hector complex, 6 to 15 percent slopes	25,457	6.2	Miscellaneous (Rock Quarries and Borrow Areas)	330	.1
Hector-Rock outcrop complex, 2 to 10 percent slopes	9,010	2.2	Total	409,600	100.0
Hector-Rock outcrop complex, 10 to 45 percent slopes	63,990	15.6			
Leadvale silt loam, 0 to 2 percent slopes	1,330	.3			
Leadvale silt loam, 2 to 6 percent slopes	2,560	.6			
Linker fine sandy loam, 2 to 6 percent slopes	9,731	2.4			

Ap—0 to 6 inches; yellowish brown (10YR 5/4) silt loam; weak fine granular structure; friable; many fine roots; few quartz pebbles; few thin flat shale fragments; strongly acid; abrupt smooth boundary.

B21t—6 to 15 inches; brownish yellow (10YR 6/6) silty clay loam; weak fine subangular blocky structure; friable; few fine roots; patchy clay films on faces of some peds; few quartz pebbles; few thin flat shale fragments; very strongly acid; clear wavy boundary.

B22t—15 to 22 inches; strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; few fine roots; few thin flat shale fragments; patchy clay films on faces of most peds; very strongly acid; gradual wavy boundary.

B23t—22 to 34 inches; strong brown (7.5YR 5/6) silty clay; common medium prominent red (10YR 4/8) mottles, common medium distinct yellowish brown (10YR 5/8) and yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm; common patchy clay films on faces of some peds; few thin flat shale fragments; very strongly acid; clear wavy boundary.

B3—34 to 47 inches; yellow (10YR 7/6) silty clay; common medium distinct strong brown (7.5YR 5/8) and white (10YR 8/2) mottles and common fine faint yellowish brown mottles; weak medium subangular blocky structure; firm; few clay films on faces of peds; few thin flat shale fragments; very strongly acid; abrupt wavy boundary.

C—47 to 66 inches; horizontally bedded soft shale.

R—66 inches; consolidated shale.

In undisturbed areas, there is a dark grayish brown or dark brown A1 horizon, 1 to 3 inches thick, and a pale brown, light yellowish brown, or brown A2 horizon. The Ap horizon is dark yellowish brown, brown, or yellowish brown. The B1 horizon, where present, and the B2t horizon are brownish yellow, yellowish brown, or strong brown. In most places the lower part of the B2t horizon has red, yellow, and brown mottles. The B1 horizon is loam or silty clay loam. The B2t horizon is silty clay loam, silty clay, or clay. The B3 and C horizons are yellow, brownish yellow, yellowish brown, or strong brown or are mottled in shades of red, brown, yellow, and gray. They are silty clay loam, silty clay, or clay.

Content of coarse fragments ranges from 0 to 15 percent in the A, B1, and B2t horizons, but is as much as 35 percent in the B3 or C horizons in some places. Reaction is strongly acid or very strongly acid throughout the profile except where the A horizon has been limed.

Albertville soils are associated with Hartsells, Linker, Montevallo, Nectar, and Townley soils. They have a finer textured subsoil than Hartsells and Linker soils. They are yellower than Linker soils. Albertville soils have a yellower subsoil than Nectar soils, and they are deeper to bedrock than Townley soils. Albertville soils do not have the high content of shale fragments characteristic of Montevallo soils.

AbB—Albertville silt loam, 2 to 6 percent slopes. This soil is on ridges. It has the profile described as representative of the series.

Included with this soil in mapping are small areas of Hartsells, Linker, and Townley soils. Also included are some areas that are as much as 40 percent Nectar soils. Also included are a few areas of soils that have a surface layer of loam.

This soil is suited to all locally grown crops (fig. 2). It is fairly easy to work, but the clay content in the subsoil narrows the moisture range in which this soil can be tilled. The hazard of erosion is slight to mod-

Figure 2.—**Soybeans growing on Albertville silt loam, 2 to 6 percent slopes. Minimum tillage is being used in this field.**

erate if this soil is cultivated. Most of the acreage is in row crops and pasture. Capability unit IIe-5; woodland suitability group 3o7.

AbC—Albertville silt loam, 6 to 10 percent slopes. This soil is on ridges and side slopes. It has a profile similar to the one described as representative for the series, but the surface layer is 1 to 2 inches thinner.

Included with this soil in mapping are small areas of Hartsells, Linker, Montevallo, and Townley soils. Also included are some areas that are 0 to 40 percent Nectar soils. Also included are a few areas of soils that have a surface layer of silty clay loam 2 to 4 inches thick or a surface layer of loam 5 to 8 inches thick.

This soil is suited to all locally grown crops. It is fairly easy to work, but the high content of clay in the subsoil narrows the moisture range in which the soil can be tilled. The hazard of erosion is moderate to severe if this soil is cultivated. Most of the acreage is in pasture and row crops. Capability unit IIIe-5; woodland suitability group 3o7.

AbD—Albertville silt loam, 10 to 15 percent slopes. This soil is on ridges and side slopes. It has a profile similar to the one described as representative of the series, but depth to soft shale is about 6 inches less.

Included with this soil in mapping are small areas of Hartsells, Linker, Montevallo, and Townley soils. Also included are some areas that are 0 to 40 percent Nectar soil. Also included are a few areas of soils that have a surface layer of silty clay loam 2 to 4 inches thick or a surface layer of loam 5 to 8 inches thick.

This soil is well suited to pasture and woodland. It is poorly suited to cultivated crops because of severe hazard of erosion. It can be cultivated occasionally, however, under good management. The cultivated areas are small. Most of the acreage is in woodland and pasture. Capability unit IVe-5; woodland suitability group 3o7.

Allen Series

The Allen series consists of deep, well drained, gently sloping to steep soils on foot slopes. These soils formed in material weathered mainly from sandstone.

In a representative profile the surface layer is dark brown loam about 7 inches thick. The upper 43 inches of the subsoil is yellowish red, friable loam; the middle 20 inches is yellowish red, friable sandy loam that has strong brown mottles; and the lower 18 inches is red, friable sandy clay loam that has strong brown mottles.

Permeability is moderate. Available water capacity is medium to high.

Most of the acreage is wooded. Trees are mostly second-growth pine and some hardwoods. The cleared areas are mainly in pasture, but some areas are in row crops. The more nearly level areas are well suited to row crops.

Representative profile of Allen loam, 6 to 10 percent slopes, approximately 3 miles northwest of Remlap in the NE¼SE¼ sec. 35, T. 13 S., R. 1 W.:

Ap—0 to 7 inches; dark brown (7.5YR 4/4) loam; weak medium granular structure; friable; few quartz pebbles; few sandstone pebbles and fragments; few fine roots; common worm casts; some mixing with underlying horizon in lower part by insects and worms; strongly acid; abrupt smooth boundary.

B21t—7 to 21 inches; yellowish red (5YR 4/6) loam; moderate medium subangular blocky structure; friable; patchy clay films on faces of some peds; common worm and insect channels filled with material

from horizon above; few fine roots; few quartz pebbles; few sandstone pebbles and fragments; strongly acid; clear smooth boundary.

B22t—21 to 50 inches; yellowish red (5YR 4/6) loam; moderate medium subangular blocky structure; friable; patchy clay films on faces of some peds; few quartz pebbles; few standstone pebbles; very strongly acid; clear smooth boundary.

B23t—50 to 70 inches; yellowish red (5YR 5/6) sandy loam; few medium distinct strong brown (7.5YR 5/6) mottles; moderate medium and coarse subangular blocky structure; friable; continuous red clay films on faces of some peds; few sandstone pebbles and cobbles; few quartz pebbles; very strongly acid; clear smooth boundary.

B24t—70 to 88 inches; red (2.5YR 4/6) sandy clay loam; common medium distinct yellowish red (5YR 4/8) mottles and a few medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; patchy clay films on faces of some peds; common sandstone fragments and cobbles; very strongly acid.

In undisturbed areas, there is a dark grayish brown A1 horizon 1 to 3 inches thick. The Ap horizon is dark yellowish brown, brown, yellowish brown, or dark brown. The B1 horizon, where present, is dark brown, strong brown, or yellowish red sandy loam, loam, or sandy clay loam. The B2t horizon is yellowish red or red loam, sandy clay loam, or clay loam; in some places, it is clay below a depth of 40 inches. In most places the lower part of the B2t horizon has brown, red, and yellow mottles.

Content of coarse fragments ranges from 0 to 15 percent, by volume, of the profile. Reaction is very strongly acid or strongly acid throughout the profile except where the A horizon has been limed.

Allen soils are associated with Decatur, Hector, Minvale, and Remlap soils. They have a coarser textured subsoil than Decatur and Remlap soils. They do not have the high chert content characteristic of Minvale soils. Allen soils are deeper to bedrock than Hector soils.

AeB—Allen loam, 2 to 6 percent slopes. This soil is on foot slopes. It has a profile similar to the one described as representative of the series, but the surface layer is 1 to 2 inches thicker.

Included with this soil in mapping are small areas of Decatur, Hector, and Remlap soils. Also included are a few areas that have boulders, and a few areas of soils that are similar to the Allen soil but that have a coarser textured subsoil.

This soil is well suited to all locally grown crops. It is easy to work and can be tilled throughout a wide range of moisture content without clodding or crusting. The hazard of erosion is slight to moderate if this soil is cultivated. Most of the acreage is in row crops and pasture. Capability unit IIe-2; woodland suitability group 3o7.

AeC—Allen loam, 6 to 10 percent slopes. This soil is on foot slopes. It has the profile described as representative of the series.

Included with this soil in mapping are small areas of Decatur, Hector, and Remlap soils. Also included in mapping are a few areas that have boulders, a few areas of soils that are similar to this Allen soil but that have a coarser textured subsoil, and a few areas of soils that have a surface layer of fine sandy loam 2 to 6 inches thick.

This soil is suited to all locally grown crops. It is easy to work and can be tilled throughout a wide range of moisture content without clodding or crusting. The hazard of erosion is moderate to severe if this soil is cultivated. Most of the acreage is in row crops and pasture. Capability unit IIIe-2; woodland suitability group 3o7.

AeD—Allen loam, 10 to 15 percent slopes. This soil is on foot slopes. It has a profile similar to the one described as representative of the series, but the surface layer is 1 to 2 inches thinner.

Included with this soil in mapping are small areas of Decatur, Hector, and Remlap soils. Also included are a few areas that have boulders, a few areas of soils that are similar to this Allen soil but that have a coarser textured subsoil, and a few areas of soils that have a surface layer of fine sandy loam 2 to 6 inches thick.

This soil is well suited to pasture and woodland. It is poorly suited to cultivated crops because of the severe hazard of erosion. This soil can be cultivated occasionally, however, under good management. The cultivated areas are small. Most of the acreage is in woodland and pasture. Capability unit IVe-2; woodland suitability group 3o7.

AeE—Allen loam, 15 to 25 percent slopes. This soil is on foot slopes. It has a profile similar to the one described as representative for the series, but the surface layer is 2 inches thinner.

Included with this soil in mapping are small areas of Hector soils and a few areas that have boulders. Some larger areas of soil that are similar to this Allen soil but that have a coarser textured surface layer and subsoil are also included in the vicinity of Oneonta and Allgood. A few areas are soils that have a surface layer of fine sandy loam 2 to 6 inches thick.

This soil is very poorly suited to cultivated crops because of the steep slopes and the very severe hazard of erosion. It is well suited to woodland, and under good management it is fairly well suited to pasture. Most of the acreage is in woodland. Capability unit VIe-2; woodland suitability group 3o7.

Barfield Series

The Barfield series consists of shallow, well drained to excessively drained, gently sloping to very steep soils on uplands. These soils formed in material weathered from limestone.

In a representative profile the surface layer is very dark grayish brown silty clay about 4 inches thick. The subsoil is dark brown clay. Limestone bedrock is at a depth of 14 inches.

Permeability is moderately slow. Available water capacity is low to very low.

Most of the acreage is in eastern redcedar and mixed hardwoods. A few areas are in pasture. These soils are suited to cedar and selected hardwoods.

Representative profile of Barfield silty clay in Barfield-Rock outcrop complex, 75 feet northwest of Friendship Church in the NW¼NE¼ sec. 20, T. 12 S., R. 2 W.:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silty clay; moderate coarse granular structure; firm; many roots; few limestone fragments; neutral; abrupt smooth boundary.

B2—4 to 14 inches; dark brown (10YR 3/3) clay; moderate medium and coarse angular blocky structure;

firm, slightly sticky; few fine and medium roots; few limestone concretions; neutral.
R—14 inches; limestone bedrock.

The A horizon is very dark brown or very dark grayish brown silty clay loam, silty clay, or clay. It extends to bedrock in some places. The B2 horizon is very dark brown or dark brown silty clay or clay. The B3 horizon, where present, is dark grayish brown, dark brown, dark yellowish brown, or yellowish brown silty clay or clay.

Reaction is slightly acid to mildly alkaline throughout the profile.

Barfield soils are associated with Bodine, Decatur, Hector, and Remlap soils. Barfield soils are shallower than Bodine, Decatur, and Remlap soils. They have a finer textured subsoil than Hector soils.

Bc—Barfield-Rock outcrop complex. This complex is on foot slopes, mountainsides, and ridges. Commonly it is in long narrow bands at the base of mountains that have a sandstone or cherty cap; in other areas, this complex is on mountain ridges and adjacent side slopes. Areas are as large as several hundred acres. Slopes range from 5 to 40 percent.

Barfield soils and Rock outcrop form an intricate pattern that is about 60 percent Barfield soils and 40 percent Rock outcrop. The soils are excessively drained, shallow, and clayey. The Rock outcrop part is characterized by limestone outcrops, boulders, tilted limestone bedrock, and exposed ledges mottled with Barfield soils.

Barfield-Rock outcrop complex is not suited to cultivated crops because of the Rock outcrop. It is suited to eastern redcedar and selected hardwoods. The limestone rock is of good quality. Several limestone quarries are in areas of this complex. Capability unit VIIs-7; woodland suitability group 4d3.

Bodine Series

The Bodine series consists of deep, well drained or excessively drained, sloping to steep soils on uplands.

In a representative profile the upper part of the surface layer is dark grayish brown cherty silt loam 2 inches thick, and the lower part of the surface layer is pale brown cherty loam 9 inches thick. The upper 3 inches of the subsoil is yellowish brown cherty clay loam, the next 8 inches is strong brown cherty loam, the next 16 inches is yellowish red very cherty clay loam that has brown mottles, and the lower 46 inches is mottled brownish yellow and yellowish red very cherty clay loam that is dominantly brownish yellow below a depth of 60 inches.

Permeability is rapid. Available water capacity is low to medium.

Most of the acreage is in mixed hardwoods and pine. A few small areas are in pasture. It is well suited to woodland.

Representative profile of Bodine cherty silty loam, 15 to 45 percent slopes, approximately 1 mile west of Remlap in the SE¼NE¼ sec. 14, T. 14 S., R. 1 W.:

A1—0 to 2 inches; dark grayish brown (10YR 4/2) cherty silt loam; weak medium granular structure; friable; common fine roots; many angular chert fragments ¼ to 1 inch in diameter; few chert cobbles as much as 10 inches in diameter; medium acid; abrupt smooth boundary.
A2—2 to 9 inches; pale brown (10YR 6/3) cherty silt loam; weak medium subangular blocky structure; friable; few fine roots; common angular chert fragments ¼ to 1 inch in diameter; few chert cobbles as much as 10 inches in diameter; strongly acid; clear smooth boundary.
B21t—9 to 14 inches; yellowish brown (10YR 5/6) cherty clay loam; weak medium subangular blocky structure; friable; few fine roots; few patchy clay films on faces of some peds; 40 percent angular chert fragments ½ to 3 inches in diameter; very strongly acid; clear smooth boundary.
B22t—14 to 22 inches; strong brown (7.5YR 5/6) cherty loam; weak medium subangular blocky structure; friable; few patchy clay films on faces of some peds; 50 percent angular chert fragments ½ to 3 inches in diameter; very strongly acid; gradual wavy boundary.
B23t—22 to 38 inches; yellowish red (5YR 5/6) very cherty clay loam; common medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; 75 percent chert fragments ½ to 4 inches in diameter; clay films on faces of some peds and chert fragments; very strongly acid; gradual wavy boundary.
B24t—38 to 60 inches; mottled brownish yellow (10YR 6/6) and yellowish red (5YR 5/6) very cherty clay loam; moderate medium subangular blocky structure; friable; 75 percent angular chert fragments ½ to 10 inches in diameter; clay films on faces of some peds and chert fragments; very strongly acid; gradual wavy boundary.
B3—60 to 84 inches; brownish yellow (10YR 6/6) very cherty clay loam; weak medium subangular blocky structure; friable; 75 percent chert fragments ½ to 10 inches in diameter; clay films on faces of some peds and chert fragments; few veins of white clay 2.5 centimeters wide; very strongly acid.

The A1 horizon is very dark grayish brown, dark grayish brown, or dark brown. The A2 and Ap horizons are pale brown, light yellowish brown, brown, yellowish brown, or dark brown. The B1 horizon, where present, is yellowish brown or strong brown. The B2t horizon is yellowish brown, brownish yellow, brown, strong brown, reddish yellow, reddish brown, or yellowish red. In most places, the lower part of the B2t horizon is mottled in shades of yellow, brown, and red. The B3 horizon is similar to the B2t horizon in color, but it has veins of white or gray clayey material in some places. The Bt horizon is cherty loam, cherty silty clay loam, cherty loam, cherty clay loam, or their very cherty counterparts. Below a depth of 60 inches, in some places, the profile is dominantly chert beds that contain very little soil material between chert fragments.

Reaction is strongly acid or very strongly acid throughout the profile except where the A horizon has been limed.

Bodine soils are associated with Barfield, Decatur, Fullerton, Hector, and Minvale soils. Bodine soils contain more chert fragments than any of these soils. Bodine soils are deeper to bedrock than Barfield and Hector soils.

BdC—Bodine cherty silt loam, 6 to 15 percent slopes. This soil is on ridges and side slopes. It has a profile similar to the one described as representative of the series, but the surface layer is 2 to 3 inches thicker.

Included with this soil in mapping are small areas of Decatur, Fullerton, and Minvale soils. Also included are a few areas of soils that have a surface layer of cherty loam.

This soil is poorly suited to cultivated crops because of the content of coarse chert fragments. It is fairly well suited to pasture, but it is better suited to woodland. Most of the acreage is wooded. Some areas are in pasture. Capability unit VIs-3; woodland suitability group 4f2.

BdF—Bodine cherty silt loam, 15 to 45 percent slopes. This soil is on ridges and side slopes. It is

characterized by narrow ridges and side slopes that are highly dissected by intermittent drainageways. Areas are as large as several hundred acres. This soil has the profile described as representative of the series.

Included with this soil in mapping are small areas of Barfield, Fullerton, Hector, and Minvale soils. Also included are a few areas in which slopes are greater than 45 percent.

This soil is not suited to cultivated crops and pasture because of the steep slopes and coarse chert fragments. It is suited to woodland. Most of the acreage is wooded. Capability unit VIIs-3; woodland suitability group 4f3.

Crevasse Series

The Crevasse series consists of deep, excessively drained soils on flood plains. These soils formed in deep deposits of loamy sands and sands along the major streams and are subject to occasional flooding. Slopes range from 0 to 2 percent.

In a representative profile the surface layer is dark yellowish brown loamy fine sand about 9 inches thick. The upper 51 inches of the underlying material is yellowish brown loamy sand, and the lower part, to a depth of 84 inches, is light yellowish brown sand that has yellowish brown streaks.

Permeability is rapid. Available water capacity is low to very low.

Most of the acreage is in pasture and woodland of pine and mixed hardwoods.

Representative profile of Crevasse loamy fine sand about 2 miles south of Nectar in the NE¼NW¼ sec. 4, T. 13 S., R. 1 W.:

A—0 to 9 inches; dark yellowish brown (10YR 4/4) loamy fine sand; weak fine granular structure; loose; many fine roots; slightly acid; abrupt smooth boundary.

C1—9 to 40 inches; yellowish brown (10YR 5/6) loamy sand; single grained (structureless); loose; few fine roots; medium acid; gradual wavy boundary.

C2—40 to 60 inches; yellowish brown (10YR 5/8) loamy sand; single grained (structureless); loose; medium acid; gradual wavy boundary.

C3—60 to 84 inches; light yellowish brown (10YR 6/4) sand; yellowish brown streaks; single grained (structureless); loose; medium acid.

The A horizon is dark grayish brown, dark brown, dark yellowish brown, brown, or yellowish brown. The C horizon is dark brown, dark yellowish brown, yellowish brown, pale brown, light yellowish brown, or brownish yellow loamy sand or sand.

Reaction ranges from medium acid to neutral throughout the profile.

Crevasse soils are associated with Ellisville, Hamblen, and Spadra soils. They are more sandy than any of these soils.

Cr—Crevasse loamy fine sand. This soil is on flood plains.

Included with this soil in mapping are small areas of Ellisville, Hamblen, and Spadra soils; few areas of soils that have thin strata of sandy loam, loam or silt loam; and a few areas of soils that are sandy loam or loam below a depth of 40 inches. Also included are a few areas of soils that have a surface layer of loamy sand or sand.

This soil is poorly suited to cultivated crops because it is droughty. It is suited to selected pasture plants and trees. Capability unit IIIs-4; woodland suitability group 2s5.

Decatur Series

The Decatur series consists of deep, well drained, gently sloping to strongly sloping soils on uplands. These soils formed in material weathered mainly from limestone.

In a representative profile the surface layer is dark reddish brown loam about 6 inches thick. The subsoil, to a depth of 84 inches, is dark red clay.

Permeability is moderate. Available water capacity is medium to high.

Most of the acreage has been cleared, and the more nearly level areas are well suited to all locally grown crops. They are in row crops and pasture. The steeper areas are primarily wooded. Trees are mostly second-growth pine.

Representative profile of Decatur loam, 2 to 6 percent slopes, 2.3 miles northeast of Summit in the NW¼ SW¼ sec. 29, T. 9 S., R. 2 E.:

Ap—0 to 6 inches; dark reddish brown (5YR 3/3) loam; weak medium granular structure; friable; common fine roots; few worm casts; few fine and medium concretions; few quartz and chert pebbles; slightly acid; abrupt smooth boundary.

B21t—6 to 26 inches; dark red (2.5YR 3/6) clay; strong medium angular blocky structure; firm; few fine and medium black concretions; nearly continuous dusky red clay films on faces of some peds; few black coatings on some peds; few fine roots; medium acid; gradual smooth boundary.

B22t—26 to 56 inches; dark red (2.5YR 3/6) clay; moderate medium angular blocky structure; few fine roots; firm; nearly continuous dark reddish brown clay films on faces of most peds; few fine and medium black concretions; very strongly acid; gradual smooth boundary.

B23t—56 to 84 inches; dark red (2.5YR 3/6) clay; moderate fine and medium angular blocky structure; firm; few black concretions; nearly continuous dark reddish brown clay films on faces of most peds; few quartz pebbles; very strongly acid.

The Ap horizon is dark reddish brown loam or silty clay loam. The Bt horizon is dark reddish brown, dark red, or dusky red. The B2t horizon is silty clay loam, silty clay, or clay.

Content of coarse fragments ranges from 0 to 15 percent, by volume, of each horizon. Reaction is medium acid or slightly acid in the Ap horizon and very strongly acid to medium acid in the B2t horizon.

Decatur soils are associated with Allen, Barfield, Bodine, Minvale, and Remlap soils. They are darker shades of red than any of these soils. They are more clayey than Allen and Minvale soils. Decatur soils are deeper to bedrock than Barfield soils, and they have fewer chert fragments than Bodine soils.

DcB—Decatur loam, 2 to 6 percent slopes. This soil is on ridges. It has the profile described as representative of the series.

Included with this soil in mapping are small areas of Allen, Bodine, Minvale, and Remlap soils and a few small areas of soils that have a surface layer of dark red silty clay loam. Near Village Springs, an area of soils on a nearly level flood plain is also included in mapping.

This soil is suited to all locally grown crops. It is fairly easy to work, but the clay content in the subsoil narrows the moisture range in which this soil can be tilled. The hazard of erosion is slight to moderate if this soil is cultivated. Most of the acreage is in row crops and pasture. Capability unit IIe-1; woodland suitability group 3o7.

DcC—Decatur loam, 6 to 10 percent slopes. This soil is on ridges and side slopes. It has a profile similar to the one described as representative of the series, but the surface layer is 1 to 2 inches thinner.

Included with this soil in mapping are small areas of Allen, Bodine, Minvale, and Remlap soils. Also included are a few small areas of soils that have a surface layer of dark red silty clay loam.

This soil is suited to all locally grown crops. It is fairly easy to work, but the high clay content in the subsoil narrows the moisture range in which this soil can be tilled. The hazard of erosion is moderate to severe if this soil is cultivated. Most of the acreage is in pasture or is wooded. Capability unit IIIe-1; woodland suitability group 3o7.

DtC2—Decatur silty clay loam, 4 to 15 percent slopes, eroded. This soil has a profile similar to the one described as representative of the series, but the surface layer is silty clay loam.

Included with this soil in mapping are small areas of Barfield, Bodine, Minvale, and Remlap soils. Rills and a few shallow gullies are in most cultivated fields. Also included are a few areas in which slopes are greater than 15 percent.

This soil is well suited to pasture and woodland. Most of this soil is poorly suited to cultivated crops because of the severe hazard of further erosion. It can be cultivated occasionally, however, under good management. The more gently sloping areas are generally small and in a complex pattern with steeper areas. Most of the acreage is in woodland and pasture. Capability unit IVe-11; woodland suitability group 3o7.

Ellisville Series

The Ellisville series consists of deep, well drained soils that formed in silty alluvium. They are on flood plains and low stream terraces that are subject to occasional flooding. Slopes are 0 to 2 percent.

In a representative profile the surface layer is dark brown silt loam about 6 inches thick. The upper 6 inches of the subsoil is dark yellowish brown silt loam, and the lower 41 inches is dark brown silt loam. The underlying material, to a depth of 65 inches, is dark brown loamy sand.

Permeability is moderate. Available water capacity is medium to high.

Most of the acreage is cleared and is in row crops and pasture. The rest is in mixed hardwoods. This soil is well suited to all locally grown crops.

Representative profile of Ellisville silt loam approximately 3 miles northeast of Locust Fork in the NE¼ NW¼ sec. 12, T. 13 S., R. 1 W.:

Ap—0 to 6 inches; dark brown (10YR 4/3) silt loam; weak granular structure; friable; few fine roots; strongly acid; clear smooth boundary.

B1—6 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium and coarse subangular blocky structure; friable; few fine roots; few worm casts; medium acid; clear smooth boundary.

B21—12 to 29 inches; dark brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable; few fine roots; few worm casts; few pieces of charcoal; few patchy clay films on faces of some peds; medium acid; clear smooth boundary.

B22—29 to 43 inches; dark brown (10YR 3/3) silt loam; weak fine and medium subangular blocky structure; friable; few fine roots; few pieces of charcoal; few worm casts; few patchy clay films on faces of some peds; strongly acid; clear smooth boundary.

B3—43 to 53 inches; dark brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few pieces of charcoal; few fine roots; strongly acid; clear smooth boundary.

IIC—53 to 65 inches; dark brown (10YR 4/3) loamy sand; single grained (structureless); loose; few fine roots; few pieces of charcoal; strongly acid.

The Ap horizon is dark grayish brown, dark brown, or dark yellowish brown. The B horizon is dark brown, dark yellowish brown, or yellowish brown silt loam or silty clay loam. Light gray or light brownish gray mottles are below a depth of 24 inches in some places. The IIC horizon is similar to the B horizon in color and is loamy sand, sandy loam, or loam.

Reaction is strongly acid to medium throughout the profile.

Ellisville soils are associated with Crevasse, Hamblen, and Spadra soils. They are more silty throughout the profile than any of the associated soils.

Ee—Ellisville silt loam. This soil is on flood plains and low stream terraces.

Included with this soil in mapping are small areas of Crevasse, Hamblen, and Spadra soils. Also included are a few areas of soils that have a surface layer of fine sandy loam and a coarser subsoil than this Ellisville soil.

This soil is suited to a wide range of cultivated crops and can be cropped intensively, but susceptibility to flooding limits suitability for crops grown late in winter and early in spring. Ellisville soils can be tilled throughout a wide range of moisture content without clodding or crusting. There is no hazard of erosion if this soil is cultivated. However, there may be some scouring during periods of overflow. Capability unit IIw-2; woodland suitability group 1o7.

Ennis Series

The Ennis series consists of deep, well drained soils. These soils formed in cherty limestone alluvium on flood plains and narrow drainageways that are subject to occasional flooding. Slopes are 0 to 2 percent.

In a representative profile the surface layer, to a depth of 10 inches, is dark yellowish brown cherty silt loam. The upper 10 inches of the subsoil is strong brown cherty silt loam, the middle 6 inches is yellowish brown cherty silt loam, and the lower 34 inches is dark yellowish brown cherty silt loam.

Permeability is rapid. Available water capacity is medium.

Most of the acreage is cleared and is in pasture. The wooded areas are mixed hardwoods.

Representative profile of Ennis cherty silt loam approximately 2 miles northeast of Blountsville in the NW¼SE¼ sec. 6, T. 10 S., R. 1 E.:

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) cherty silt loam; weak medium granular structure; friable; many fine roots; 20 percent chert fragments; strongly acid; clear smooth boundary.

B21—10 to 20 inches; strong brown (7.5YR 5/6) cherty silt loam; weak medium subangular blocky structure; friable; common fine roots; 25 percent chert fragments; strongly acid; clear smooth boundary.

B22—20 to 26 inches; yellowish brown (10YR 5/6) cherty silt loam; weak medium subangular blocky structure; friable; few fine roots; 30 percent chert fragments; strongly acid; clear smooth boundary.

B3—26 to 60 inches; dark yellowish brown (10YR 4/4) cherty silt loam; massive (structureless); friable; 35 percent chert fragments; strongly acid.

The Ap horizon is dark brown or dark yellowish brown. The B horizon is dark yellowish brown, yellowish brown, or strong brown cherty silt loam or cherty silty clay loam. Where present, the C horizon is dark yellowish brown cherty silt loam or cherty silty clay loam.

Content of chert fragments ranges from 15 to 35 percent, by volume, throughout the profile. Reaction ranges from very strongly acid to medium acid throughout the profile.

Ennis soils are associated with Lobelville, Minvale, and Stemley soils. They are better drained than Lobelville and Stemley soils and are yellower than Minvale soils.

En—Ennis cherty silt loam. This soil has slopes of 0 to 2 percent.

Included with this soil in mapping are small areas of Lobelville and Stemley soils.

This soil can be cultivated, but the high content of chert fragments tends to make it droughty. This soil is suited to pasture. Capability unit IIs-2; woodland suitability group 2o7.

Fullerton Series

The Fullerton series consists of deep, well drained, gently sloping to strongly sloping soils on uplands. These soils formed in material weathered from cherty limestone.

In a representative profile the surface layer, to a depth of 7 inches, is yellowish brown cherty silt loam. The upper 4 inches of the subsoil is strong brown cherty silt loam, the middle 40 inches is red cherty clay, and the lower 33 inches is red cherty clay that has yellowish brown mottles.

Permeability is moderate. Available water capacity is medium.

Most of the acreage is cleared and is in pasture, but a few small areas of soils are cultivated. The rest is wooded. Trees are mostly second-growth pine and some mixed hardwoods. The more nearly level areas are well suited to row crops.

Representative profile of Fullerton cherty silt loam, 6 to 10 percent slopes, approximately 1 mile north of Allgood in the NE¼NE¼ sec. 11, T. 13 S., R. 1 E.:

Ap—0 to 7 inches; yellowish brown (10YR 5/4) cherty silt loam; weak fine granular structure; friable; many roots; about 15 percent chert fragments; strongly acid; abrupt smooth boundary.

B1—7 to 11 inches; strong brown (7.5YR 5/6) cherty silt loam; moderate medium granular structure; friable; many roots; about 15 percent chert fragments; strongly acid; gradual wavy boundary.

B21t—11 to 39 inches; red (2.5YR 4/6) cherty clay; moderate medium subangular blocky structure; firm, sticky and plastic; continuous clay films on faces of some peds; common roots; 15 percent chert fragments; strongly acid; gradual wavy boundary.

B22t—39 to 51 inches; red (2.5YR 4/6) cherty clay; moderate coarse subangular blocky structure; firm, sticky and plastic; continuous clay films on faces of some peds; 25 percent chert fragments; strongly acid; gradual wavy boundary.

B23t—51 to 63 inches; red (2.5YR 4/6) cherty clay; few fine distinct yellowish brown mottles; strong medium angular blocky structure; firm, sticky and plastic; thin continuous clay films on faces of some peds; 30 percent chert fragments; very strongly acid; gradual wavy boundary.

B24t—63 to 84 inches; red (2.5YR 4/6) cherty clay; common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium and fine angular blocky structure; firm; continuous clay films on faces of some peds; 30 percent chert fragments; very strongly acid.

The A horizon is dark grayish brown, dark brown, brown, or yellowish brown. The B1 horizon is strong brown, yellowish red, or red cherty silt loam or cherty silty clay loam. The B2t horizon is yellowish red or red cherty silty clay or cherty clay. In some places, the lower part of the B2t horizon is mottled in shades of brown, yellow, and red.

Content of chert fragments ranges from 15 to 35 percent, by volume, throughout the profile. Reaction is strongly acid or very strongly acid throughout the profile except where the A horizon has been limed.

Fullerton soils are associated with Bodine, Ennis, Hamblen, and Minvale soils. They have a more clayey subsoil than any of the associated soils.

FtB—Fullerton cherty silt loam, 2 to 6 percent slopes. This soil is on ridges. It has a profile similar to the one described as representative of the series, but the surface layer is 2 inches thicker.

Included with this soil in mapping are a few areas of soils that have a dark red subsoil and a few areas of soils that contain more than 35 percent chert fragments. Also included are a few areas of Bodine and Minvale soils.

This soil is suited to all locally grown crops. It is fairly easy to work, but the clay content in the subsoil narrows the moisture range in which it can be tilled. Chert fragments in the surface layer can interfere with tillage in some fields. The hazard of erosion is slight to moderate if this soil is cultivated. Most of the acreage is in pasture. Capability unit IIe-1; woodland suitability group 3o7.

FtC—Fullerton cherty silt loam, 6 to 10 percent slopes. This soil is on ridges and side slopes. It has the profile described as representative of the series.

Included with this soil in mapping are a few areas of soils that have a dark red subsoil and a few areas of soils that contain more than 35 percent chert fragments. Also included are small areas of Bodine and Minvale soils.

This soil is suited to all locally grown crops. It is fairly easy to work, but the clay content in the subsoil limits the moisture range in which it can be tilled. Chert fragments in the surface layer interfere with tillage in some fields. The hazard of erosion is moderate to severe if this soil is cultivated. Most of the acreage is in pasture, a few areas are cultivated, and the rest is wooded. Capability unit IIIe-1; woodland suitability group 3o7.

FtD—Fullerton cherty silt loam, 10 to 15 percent

slopes. This soil is on ridges and side slopes. It has a profile similar to the one described as representative of the series, but the surface layer is 2 to 3 inches thinner.

Included with this soil in mapping are a few areas of soils that have a surface layer of yellowish red silty clay loam. Also included are a few areas of Bodine and Minvale soils.

This soil is suited to pasture. It is poorly suited to cultivated crops because of the severe hazard of erosion. It can be cultivated occasionally, however, under good management. High content of clay in the subsoil limits the range in moisture content in which this soil can be tilled. Chert fragments in the surface layer interfere with tillage in some fields. The hazard of erosion is severe if this soil is cultivated. Most of the acreage is in pasture and woodland. Capability unit IVe-1; woodland suitability group 3o7.

Hamblen Series

The Hamblen series consists of deep, moderately well drained soils. They developed in loamy sediment on flood plains and in narrow drainageways. Hamblen soils are subject to occasional flooding, and the water table is above a depth of 30 inches late in winter and early in spring. Slopes are 0 to 2 percent.

In a representative profile the surface layer is dark brown loam about 6 inches thick. The upper 4 inches of the subsoil is dark brown loam, the next 10 inches is dark yellowish brown loam that has yellowish brown mottles, and the next 5 inches is yellowish brown loam that has light brownish gray mottles. Below this, to a depth of 65 inches, is mottled gray and brown loam which becomes dominantly gray at a depth of 40 inches.

Permeability is moderate. Available water capacity is high.

Most of the acreage is cleared and is in row crops and pasture. The rest is in mixed hardwoods. This soil is suited to all locally grown crops.

Representative profile of Hamblen loam approximately 2 miles southwest of Remlap in the SE¼NW¼ sec. 26, T. 14 S., R. 1 E.:

Ap—0 to 6 inches; dark brown (10YR 4/3) loam; weak fine granular structure; friable; common fine roots; few fine black concretions; few sandstone pebbles; strongly acid; clear smooth boundary.

B1—6 to 10 inches; dark brown (10YR 4/3) loam; weak medium subangular blocky structure; friable; few fine roots; few fine black concretions; few worm and insect channels; medium acid; clear smooth boundary.

B21—10 to 20 inches; dark yellowish brown (10YR 4/4) loam; few fine faint yellowish brown mottles; weak medium subangular blocky structure; friable; few fine roots; common fine and medium black concretions; few worm and insect channels; medium acid; clear smooth boundary.

B22—20 to 25 inches; yellowish brown (10YR 5/4) loam; common medium distinct light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; friable; few fine roots; common medium and large black and brown concretions; black coatings on some peds; few fine pores; strongly acid; clear smooth boundary.

B23—25 to 40 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/6), and pale brown (10YR 6/3) loam; weak medium subangular blocky structure; friable; few fine roots; common fine and medium black and brown concretions; black coatings on some peds; few fine pores; strongly acid; gradual wavy boundary.

B3g—40 to 53 inches; light gray (10YR 7/2) loam; common medium distinct yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/4) mottles; weak coarse subangular blocky structure; friable; common medium and large black and brown concretions; black coatings on some peds; very strongly acid; gradual smooth boundary.

Cg—53 to 65 inches; light gray (10YR 7/1) loam; common medium distinct yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/4) mottles; massive (structureless); firm; few fine black concretions; few chert fragments; very strongly acid.

The A horizon is dark grayish brown or dark brown. The B1 horizon is dark brown, brown, or yellowish brown. The B21 and B22 horizons are dark yellowish brown or yellowish brown. Mottles 2 or less in chroma are above a depth of 24 inches. The B23 and B3 horizons are mottled in shades of gray, brown, and yellow, or they are dominantly gray and have brownish and yellowish mottles; The B horizon is loam, silt loam, or silty clay loam. The C horizon is similar to the lower part of the B horizon in color and texture.

Reaction is medium acid to strongly acid throughout the profile except where the A horizon has been limed.

The reaction of this soil is slightly more acid in the lower part of the solum than the defined range for the series, but this difference does not alter the usefulness and behavior of the soil.

Hamblen soils are associated with Crevasse, Ellisville, and Spadra soils. They are more poorly drained than any of the associated soils. They are more sandy in the solum than Ellisville soils and less sandy than Crevasse soils. Hamblen soils are darker shades of brown in the upper part than Spadra soils.

Ha—Hamblen loam. This soil is on flood plains and in narrow drainageways.

Included with this soil in mapping are small areas of Crevasse, Ellisville, and Spadra soils.

This soil can be cultivated extensively, but the high water table and occasional flooding often delay seedbed preparation. This soil is easy to work and can be tilled throughout a wide range of moisture content without clodding or crusting. There is no hazard of erosion if this soil is cultivated, but there can be scouring during flooding. Capability unit IIw-2; woodland suitability group 2w8.

Hanceville Series

The Hanceville series consists of deep, well drained, gently sloping to sloping soils on uplands. These soils formed in material weathered mainly from sandstone.

In a representative profile the surface layer is dark reddish brown loam about 8 inches thick. The upper 9 inches of the subsoil is dark red clay loam, the middle 37 inches is dark red clay, and the lower 9 inches is dark red clay loam. Sandstone is at a depth of 63 inches.

Permeability is moderate. Available water capacity is medium to high.

Most of the acreage is cleared and is in row crops and pasture. The rest is wooded and is mainly second-growth pine. The more nearly level areas are suited to row crops.

Representative profile of Hanceville loam, 2 to 6

percent slopes, 50 yards south of junction of U.S. Highway 231 and Alabama Highway 79, in the SW¼ SW¼ sec. 7, T. 12 S., R. 1 E.:

Ap—0 to 8 inches; dark reddish brown (5YR 3/3) loam; weak medium granular structure; friable; common fine roots; few fine iron and manganese concretions; few fine sandstone fragments; slightly acid; clear smooth boundary.

B21t—8 to 17 inches; dark red (2.5YR 3/6) clay loam; moderate medium subangular blocky structure parting to weak fine subangular blocky; friable; few fine roots; few thin clay films mainly in pores; few fine iron and manganese concretions; few coarse sandstone fragments; very strongly acid; gradual wavy boundary.

B22t—17 to 54 inches; dark red (2.5YR 3/6) clay; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable; few fine roots; thin patchy clay films on faces of some peds; few fine iron and manganese concretions; few coarse weathered sandstone fragments; very strongly acid; gradual wavy boundary.

B3—54 to 63 inches; dark red (2.5YR 3/6) clay loam; weak medium subangular blocky structure; friable; common weathered sandstone fragments as much as 6 inches in length; few fine yellowish brown iron and manganese concretions; very strongly acid; gradual wavy boundary.

C—63 to 90 inches; red, broken and weathered sandstone with some sandy loam soil material in the cracks.

The Ap horizon is dark brown or dark reddish brown. The B2t horizon is dark red clay loam or clay. The B3 horizon is red or dark red sandy clay loam or clay loam.

Content of coarse fragments generally ranges from 0 to 15 percent, by volume, throughout the profile, but the C horizon is as much as 75 percent, by volume, coarse fragments in some places. Reaction is strongly acid or very strongly acid throughout the profile except where the A horizon has been limed.

Hanceville soils are associated with Albertville, Hartsells, Linker and Nectar soils. They are darker shades of red than any of the associated soils. They have more clay in the subsoil than Hartsells and Linker soils.

HcB—Hanceville loam, 2 to 6 percent slopes. This soil is on ridges. It has the profile described as representative of the series.

Included with this soil in mapping are small areas of Linker and Nectar soils. Also included are a few areas of soils in which depth to bedrock is less than 60 inches.

This soil is suited to all locally grown crops. It is fairly easy to work, but the clay content in the subsoil limits the moisture range in which this soil can be tilled. The hazard of erosion is slight to moderate if this soil is cultivated. Most of the acreage is in row crops and pasture. Capability unit IIe-5; woodland suitability group 4o1.

HcC—Hanceville loam, 6 to 10 percent slopes. This soil is on ridges and side slopes. It has a profile similar to the one described as representative of the series but the surface layer is 2 inches thinner.

Included with this soil in mapping are small areas of Linker and Nectar soils. Also included are a few areas of soils in which slope is greater than 10 percent.

This soil is suited to all locally grown crops. It is fairly easy to work, but the clay content in the subsoil limits the moisture range in which this soil can be tilled. The hazard of erosion is moderate to severe if this soil is cultivated. Most of the acreage is in pasture. A few small areas are cultivated. The rest is wooded and is mainly second-growth pine. Capability unit IIIe-5; woodland suitability group 4o1.

Hartsells Series

The Hartsells series consists of moderately deep, well drained, gently sloping to sloping soils on uplands. They formed in material weathered mainly from sandstone.

In a representative profile the surface layer is dark brown fine sandy loam about 6 inches thick. The upper 13 inches of the subsoil is yellowish brown loam, and the lower 19 inches is strong brown loam that has yellowish red and red mottles. The underlying material is strong brown soft sandstone. Hard sandstone bedrock is at a depth of 40 inches.

Permeability is moderate. Available water capacity is medium to high.

Most of the acreage is cleared and is in row crops and pasture. The rest is mixed hardwoods and second-growth pine. The more nearly level areas are well suited to row crops.

Representative profile of Hartsells fine sandy loam, 6 to 10 percent slopes, approximately 4 miles south of Appalachian school in the NW¼SE¼ sec. 36, T. 13 S., R. 2 E.:

Ap—0 to 6 inches; dark brown (10YR 4/3) fine sandy loam; weak medium granular structure; very friable; many fine roots; few sandstone fragments; medium acid; abrupt smooth boundary.

B21t—6 to 19 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; common fine roots; patchy clay films on faces of some peds; few sandstone fragments; very strongly acid; clear smooth boundary.

B22t—19 to 30 inches; strong brown (7.5YR 5/8) loam; few medium distinct yellowish red (5YR 5/6) and red (2.5YR 4/8) mottles; weak medium subangular blocky structure; friable; few fine roots; patchy clay films on faces of some peds; few sandstone fragments; very strongly acid; clear smooth boundary.

B23t—30 to 38 inches; strong brown (7.5YR 5/6) loam; few medium distinct red (2.5YR 4/8) mottles; weak medium subangular blocky structure; friable; few fine roots; patchy clay films on faces of some peds; common sandstone fragments; very strongly acid; clear smooth boundary.

C—38 to 40 inches; strong brown (7.5YR 5/6) soft sandstone.

R—40 inches; hard sandstone bedrock.

The Ap horizon is dark brown, dark yellowish brown, or yellowish brown. Undisturbed areas have a very dark grayish brown, dark grayish brown, or grayish brown A1 horizon that is 1 to 4 inches thick. The A2 horizon, where present, is dark brown, dark yellowish brown, or yellowish brown. The B1 horizon, where present, is yellowish brown or strong brown sandy loam or loam. The B2t horizon is yellowish brown or strong brown sandy loam, loam, sandy clay loam, or clay loam. The lower part of the B2t horizon is mottled in shades of red, brown, or yellow in some places. The C horizon is yellowish brown or strong brown or is mottled in shades of red, yellow, or brown. It is sandy loam or loam. In some places the C horizon is soft sandstone.

Content of coarse fragments ranges from 0 to 15 percent, by volume, of most of the profile. However, the C horizon contains as much as 35 percent coarse fragments. Reaction is very strongly acid or strongly acid throughout the profile, except where the A horizon has been limed.

Hartsells soils are associated with Albertville, Hanceville, Hector, Linker, Nectar, and Wynnville soils. They have a coarser subsoil than Albertville, Hanceville, and Nectar soils and are deeper to bedrock than Hector soils. Hartsells soils have a yellower subsoil than Linker soils. They do not have the fragipan that is characteristic of Wynnville soils.

HeB—Hartsells fine sandy loam, 2 to 6 percent slopes. This soil is on ridges. It has a profile similar to the one described as representative for the series, but the surface layer is 1 to 2 inches thicker.

Included with this soil in mapping are small areas of Albertville, Hector, Nectar, and Wynnville soils. Also included are a few areas that are as much as 40 percent Linker soils. Also included are a few areas of soils that have a coarser textured subsoil. About 20 percent of the area is a soil that is similar to this Hartsells soil but in which depth to bedrock is more than 40 inches.

This soil is easy to work and can be tilled throughout a wide range of moisture content without clodding or crusting. The hazard of erosion is slight to moderate if this soil is cultivated. This soil is well suited to all locally grown crops, including such truck crops as tomatoes. Capability unit IIe-6; woodland suitability group 4o1.

HeC—Hartsells fine sandy loam, 6 to 10 percent slopes. This soil is on ridges and side slopes. It has the profile described as representative of the series.

Included with this soil in mapping are small areas of Albertville, Hector, and Nectar soils. Also included are a few areas that are as much as 40 percent Linker soils. Also included are a few areas of soils that have a coarser textured subsoil and slopes of more than 10 percent. About 20 percent of the area is a soil that is similar to this Hartsells soil but in which depth to bedrock is more than 40 inches.

This soil is easy to work and can be tilled throughout a wide range of moisture content without clodding or crusting. The hazard of erosion is moderate to severe if this soil is cultivated. It is suited to all locally grown crops, including such truck crops as tomatoes. Capability unit IIIe-6; woodland suitability group 4o1.

HhD—Hartsells-Hector complex, 6 to 15 percent slopes. The soils in this complex are on short, irregular ridges and relatively broad side slopes.

Hartsells soils make up about 46 percent of the complex, and Hector soils 36 percent. Soils that have bedrock at a depth of 40 to 60 inches make up 12 percent, and Linker and Townley soils make up the remaining 6 percent.

Included in mapping are a few areas of soils that have slopes of less than 6 percent and a few areas of soils that have slopes of more than 15 percent. Also included in mapping are a few areas of exposed sandstone bedrock.

Because of depth to bedrock and slope, this complex is poorly suited to cultivated crops; it is better suited to pasture, orchards, and pine trees. Most of the acreage is in second-growth pine and mixed hardwoods. A few areas are used for pasture, orchards, and row crops. Capability unit VIe-7; Hartsells part in woodland suitability group 4o1, Hector part in woodland suitability group 5d2.

Hector Series

The Hector series consists of shallow, well drained, gently sloping to very steep soils on uplands. These soils formed in material weathered from sandstone.

In a representative profile the surface layer is dark grayish brown fine sandy loam about 3 inches thick. The subsurface layer, to a depth of 7 inches, is yellowish brown sandy loam. The subsoil is yellowish brown sandy loam. Sandstone bedrock is at a depth of 15 inches.

Permeability is moderately rapid. Available water capacity is very low to low.

Most of the acreage is in mixed hardwoods and pine. A few areas are in pasture. Hector soils are suited to trees.

Representative profile of Hector fine sandy loam in an area of Hector-Rock outcrop complex, 10 to 45 percent slopes, approximately 1 mile west of Oneonta in the NE¼NE¼ sec. 35, T. 12 S., R. 1 E.:

A1—0 to 3 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; clear smooth boundary.

A2—3 to 7 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium and fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.

B—7 to 15 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few fine roots; few small sandstone fragments; very strongly acid.

R—15 inches; hard sandstone bedrock.

The A1 horizon is very dark grayish brown, dark brown, or dark grayish brown. The A2 horizon is dark brown, dark grayish brown, dark yellowish brown, or yellowish brown. The B horizon is reddish brown, yellowish red, strong brown, dark brown, dark yellowish brown, or yellowish brown sandy loam or loam.

Content of coarse fragments, mainly sandstone fragments and cobbles, ranges from 0 to 15 percent, by volume, of the profile. Reaction ranges from very strongly acid to slightly acid throughout the profile.

Hector soils are associated with Albertville, Allen, Barfield, Bodine, Hartsells, Linker, and Nectar soils. They are shallower to bedrock than all of the associated soils except Barfield soils. Hector soils have a coarser textured profile than Barfield soils, and they are underlain by sandstone rather than by limestone.

HrC—Hector-Rock outcrop complex, 2 to 10 percent slopes. This complex is on mountainsides. The Rock outcrop part in many places has a relatively uniformly smooth surface 5 to 50 feet wide that is slightly higher than the adjoining ground surface. In other areas, it extends a few feet above the ground surface and has a rounded or uneven surface 5 feet to 50 feet or more wide. A shallow mantle of soil overlies hard sandstone bedrock between the outcrops.

This complex is about 65 percent Hector soils and about 35 percent Rock outcrop.

Included with this complex in mapping are a few areas of soils that have slopes of more than 10 percent.

Hector-Rock outcrop complex is not suited to row

crops because of the depth to bedrock and the Rock outcrop. Under good management it can be used for pasture. This complex is suited to pine trees. Most of the acreage is in second-growth pine and mixed hardwoods. A few small areas are in pasture. Capability unit VIe-7; woodland suitability group 5d2.

HrF—Hector-Rock outcrop complex, 10 to 45 percent slopes. This complex is on mountainsides. The Rock outcrop part of the area frequently forms ledges at or near the mountain top. The ledges generally are 10 to 50 feet high. They extend for several miles and are broken only by an intervening gap or drainageway. The ground surface area downslope from the ledges consists of a shallow mantle of soil intermingled with Rock outcrop that is 1 foot to 50 feet or more in size.

This complex is 70 percent Hector soils, 20 percent Rock outcrop, and about 10 percent Linker soils. The Hector soil has the profile described as representative of the series.

Included with this complex in mapping are a few areas of soils in which slopes are greater than 45 percent. Also included are a few areas of Allen, Barfield, Bodine, and Montevallo soils.

The soils in this complex are suited to pine trees. They are not suited to row crops and pasture because of slope and Rock outcrop. Most of the acreage is in second-growth pine and mixed hardwoods. A small acreage on the less steeply sloping areas is cleared and is in pasture. Capability unit VIIe-7; woodland suitability group 5d2.

Leadvale Series

The Leadvale series consists of deep, moderately well drained, nearly level to gently sloping soils on stream terraces. These soils have a fragipan, which slows downward movement of water resulting in a perched water table at a depth of 18 to 30 inches late in winter and early in spring.

In a representative profile the surface layer is dark brown silt loam about 6 inches thick. The upper 18 inches of the subsoil is yellowish brown silt loam that has light brownish gray and pale brown mottles in the lower part; the middle 28 inches is a strong brown, firm and brittle, silty clay loam fragipan that has light gray and yellowish brown mottles; and the lower 8 inches is mottled yellowish brown, strong brown, and light gray silty clay loam.

Permeability is moderate above the fragipan and moderately slow in the fragipan. Available water capacity is medium above the fragipan and very low in the fragipan.

Most of the acreage is cleared and is in row crops and pasture. The rest is wooded. Trees are pine and mixed hardwoods.

Representative profile of Leadvale silt loam, 0 to 2 percent slopes, 0.35 mile east of junction of Alabama Highway 79 and county road 26, in the SW¼SW¼ sec. 10, T. 11 S., R. 1 E.:

Ap—0 to 6 inches; dark brown (10YR 4/3) silt loam; weak medium granular structure; friable; many fine roots; few fine black and brown concretions; strongly acid; abrupt smooth boundary.

B21t—6 to 18 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; patchy clay films on faces of some peds; common fine roots; common fine black and brown concretions; strongly acid; clear smooth boundary.

B22t—18 to 24 inches; yellowish brown (10YR 5/4) silt loam; few fine faint pale brown and light brownish gray mottles; moderate medium subangular blocky structure; friable; patchy clay films on faces of some peds; few fine roots; common fine black and brown concretions; strongly acid; clear wavy boundary.

Bx—24 to 52 inches; strong brown (7.5YR 5/6) silty clay loam; common medium faint yellowish brown (10YR 5/6) mottles; streaks of light gray (10YR 7/1) material make up about 20 percent of the mass; moderate medium subangular blocky structure; strong brown material is firm, compact and brittle; gray material is friable; few fine roots in gray material; few black concretions; continuous yellowish red (5YR 4/8) clay films on faces of some peds; few chert fragments in lower part; very strongly acid; gradual wavy boundary.

B3—52 to 60 inches; mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and light gray (10YR 7/2) silty clay loam; weak coarse subangular blocky structure; friable; patchy clay films on faces of some peds; common black and red concretions; few chert fragments; very strongly acid.

The Ap horizon is dark grayish brown, dark brown, or brown. The B2t horizon is yellowish brown, olive brown, or light olive brown silt loam or silty clay loam. The lower part of the B2t horizon has gray and brown mottles in some places. Depth to the fragipan ranges from 20 to 36 inches. The Bx horizon is strong brown or yellowish brown and has gray mottles or is mottled in shades of gray and brown. The Bx horizon is silt loam or silty clay loam. The B3 horizon is mottled in shades of brown and gray and is silty clay loam.

Reaction is very strongly acid to strongly acid throughout the profile except where the A horizon has been limed.

Leadvale soils are associated with Hamblen, Minvale, Stemley, Taft, and Wehadkee soils. They have a fragipan, which Hamblen and Minvale soils lack. They are less cherty than Stemley soils, and they are better drained than Taft and Wehadkee soils.

LaA—Leadvale silt loam, 0 to 2 percent slopes. This soil has the profile described as representative of the series.

Included with this soil in mapping are small areas of Hamblen, Stemley, and Taft soils. Also included are a few areas of soils that have a coarser textured profile.

This soil is suited to all locally grown crops. The perched water table and slow runoff cause the soils to be wet and cold until late in spring. This condition delays seedbed preparation and planting dates. There is no hazard of erosion if this soil is cultivated. Capability unit IIw-9; woodland suitability group 3o7.

LaB—Leadvale silt loam, 2 to 6 percent slopes. This soil has a profile similar to the one described as representative of the series, but the depth to the fragipan is 2 to 3 inches more.

Included with this soil in mapping are small areas of Stemley and Taft soils and a few areas of soils that have a coarser textured profile.

This soil is suited to all locally grown crops. Wetness caused by a perched water table often delays seedbed

preparation and planting of early crops. The hazard of erosion is slight to moderate if this soil is cultivated. Capability unit IIe-9; woodland suitability group 3o7.

Linker Series

The Linker series consists of moderately deep, well drained, gently sloping to strongly sloping soils on uplands. They formed in material weathered mainly from sandstone.

In a representative profile the surface layer is dark yellowish brown fine sandy loam about 7 inches thick. The upper 16 inches of the subsoil is yellowish red loam, the middle 9 inches is red loam, and the lower 6 inches is red sandy clay loam. Sandstone bedrock is at a depth of 38 inches.

Permeability is moderate. Available water capacity is medium to high.

Most of the acreage is cleared and is in row crops and pasture. The rest is in mixed hardwoods and second-growth pine. The more nearly level areas are well suited to row crops.

Representative profile of Linker fine sandy loam, 6 to 10 percent slopes, approximately 3 miles northwest of Hayden in the SW¼NE¼ sec. 13, T. 13 S., R. 3 W.:

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium granular structure; very friable; many fine roots; few sandstone pebbles; slightly acid; abrupt smooth boundary.

B21t—7 to 23 inches; yellowish red (5YR 4/6) loam; moderate medium subangular blocky structure; friable; patchy clay films on faces of some peds, in pores, and bridging sand grains; common fine roots; few sandstone pebbles; very strongly acid; clear smooth boundary.

B22t—23 to 32 inches; red (2.5YR 4/6) loam; moderate medium subangular blocky structure; friable; patchy clay films on faces of some peds, in pores, and bridging sand grains; few fine roots; few sandstone pebbles; very strongly acid; gradual smooth boundary.

B3—32 to 38 inches; red (2.5YR 4/6) sandy clay loam; weak coarse subangular blocky structure; friable; few patchy clay films on faces of some peds, in pores, and bridging sand grains; many highly weathered red sandstone fragments; few fine roots; extremely acid.

R—38 inches; hard sandstone bedrock.

The Ap horizon is dark brown, dark yellowish brown, brown, or yellowish brown. Undisturbed areas have an A1 horizon that is very dark grayish brown or dark grayish brown and 2 to 4 inches thick. The A2 horizon, where present, is brown or yellowish brown. The B1 horizon, where present, is dark brown, strong brown, or yellowish red sandy loam or loam. The B2t horizon is reddish brown, yellowish red, or red loam, sandy clay loam, or clay loam. The B3 horizon is similar to the B2t horizon in color or it is mottled red, yellow, and brown. It is sandy loam, loam, or sandy clay loam. Where present, the C horizon generally is mottled red, yellow, and brown and is mainly soft weathered sandstone.

Content of coarse, fragments, mainly of sandstone, ranges from 0 to 15 percent, by volume, of most of the profile. The B3 and C horizons, however, contain as much as 35 percent coarse fragments. Reaction ranges from extremely acid to strongly acid throughout the profile except where the A1 horizon has been limed.

Linker soils are associated with Albertville, Hanceville, Hartsells, Hector, Nectar, and Wynnville soils. They are redder than Albertville and Hartsells soils. They have a coarser textured subsoil than Albertville, Nectar, and Hanceville soils. They do not have the fragipan that is characteristic of Wynnville soils. Linker soils are deeper to bedrock than Hector soils.

LeB—Linker fine sandy loam, 2 to 6 percent slopes. This soil is on ridges. It has a profile similar to the one described as representative of the series, but the surface layer is brown fine sandy loam.

Included with this soil in mapping are small areas of Albertville, Hector, and Nectar soils. Also included are a few areas that are as much as 40 percent Hartsells soils. About 25 percent of the area consists of a soil that is similar to this Linker soil but in which depth to bedrock is more than 40 inches.

This soil is easy to work and it can be tilled throughout a wide range of moisture content without clodding or crusting. The hazard of erosion is slight to moderate if this soil is cultivated. It is suited to all locally grown crops, including such truck crops as tomatoes and orchard crops. Capability unit IIe-6; woodland suitability group 4o1.

LeC—Linker fine sandy loam, 6 to 10 percent slopes. This soil is on ridges and side slopes. It has the profile described as representative for the series.

Included with this soil in mapping are small areas of Albertville, Hanceville, Hector, and Nectar soils. Also included are a few areas that are as much as 40 percent Hartsells soils. About 25 percent of the area consists of a soil that is similar to the Linker soil, but in which depth to bedrock is more than 40 inches.

This soil is easy to work and it can be tilled throughout a wide range of moisture content without clodding or crusting. The hazard of erosion is moderate to severe if this soil is cultivated. This soil is suited to all locally grown crops, including such truck crops as tomatoes and orchard crops (fig. 3). Capability unit IIIe-6; woodland suitability group 4o1.

LeD—Linker fine sandy loam, 10 to 15 percent slopes. This soil is on side slopes. It has a profile similar to the one described as representative of the series, but the surface layer is 1 to 2 inches thinner.

Included with this soil in mapping are small areas of Albertville, Hanceville, Hartsells, Hector, and Nectar soils. Also included are a few areas of soils in which slopes are greater than 15 percent.

This soil is well suited to pasture and woodland. This soil is poorly suited to cultivated crops because of the severe hazard of erosion. It can be cultivated occasionally, however, under good management. The cultivated areas are small. Most of the acreage is in woodland or pasture. Capability unit IVe-6; woodland suitability group 4o1.

LhC—Linker-Hector complex, 2 to 10 percent slopes. The soils in this complex are on ridges and side slopes. Linker soils make up about 42 percent of the complex, Hector soils 32 percent, and Hartsells soils 14 percent. The remaining 12 percent is sandstone Rock outcrop and soils that are similar to Linker soils but that are more than 40 inches deep over bedrock.

Included in mapping are a few areas of soils that have slopes of more than 10 percent.

Because of depth to bedrock and a severe hazard of erosion, this complex is poorly suited to cultivated

Figure 3.—Peach orchard on Linker fine sandy loam, 6 to 10 percent slopes.

crops; it is better suited to pasture, orchards, and pine trees. Most of the acreage is in pasture, a few areas are cultivated, and the rest is wooded, mainly in second-growth pine. Capability unit VIe-7; Linker part in woodland suitability group 4o1, Hector part in woodland suitability group 5d2.

Lobelville Series

The Lobelville series consists of deep, moderately well drained soils on flood plains, along narrow drainageways, and in depressions. These soils formed in material washed mainly from cherty limestone. Lobelville soils are subject to occasional flooding, and the water table is above a depth of 12 to 30 inches late in winter and early in spring. Slopes are 0 to 2 percent.

In a representative profile the surface layer is dark brown cherty silt loam 8 inches thick. The upper 19 inches of the subsoil is yellowish brown cherty loam that has light gray mottles in the lower half, the middle 14 inches is mottled light brownish gray and yellowish brown cherty silt loam, and the lower 9 inches is light gray cherty silt loam mottled in shades of brown. The underlying material, to a depth of 60 inches, is yellowish brown cherty loam.

Permeability is moderate. Available water capacity is low to medium.

Most of the acreage is cleared and is used for pasture and hay. The wooded areas are mixed hardwoods. A few areas are cultivated.

Representative profile of Lobelville cherty silt loam, approximately 3 miles east of Blountsville in the SE¼ NW¼ sec. 20, T. 10 S., R. 1 E.:

Ap—0 to 8 inches; dark brown (10YR 4/3) cherty silt loam; weak medium granular structure; many fine and medium roots; about 15 percent chert fragments; medium acid; abrupt smooth boundary.

B21—8 to 19 inches; yellowish brown (10YR 5/6) cherty loam; weak medium subangular blocky structure; friable; common fine roots; about 15 percent chert fragments; strongly acid; clear smooth boundary.

B22—19 to 27 inches; yellowish brown (10YR 5/6) cherty loam; common medium distinct light gray (10YR 7/2) mottles; weak medium subangular blocky structure; friable; few fine roots; about 25 to 30 percent chert fragments; strongly acid; clear smooth boundary.

B23—27 to 41 inches; mottled light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) cherty silt loam; weak medium subangular blocky structure; friable; few fine roots; few black concretions; about 20 percent chert fragments; strongly acid; gradual smooth boundary.

B3g—41 to 50 inches; light gray (10YR 7/2) cherty silt loam; common medium distinct yellowish brown (10YR 5/6) and light yellowish brown (10YR 6/4) mottles; weak coarse subangular blocky structure; friable; few fine roots; 5 to 10 percent chert fragments; strongly acid; gradual smooth boundary.

C—50 to 60 inches; yellowish brown (10YR 5/6) cherty loam; massive (structureless); friable; 35 to 40 percent chert fragments; strongly acid.

The Ap horizon is brown or dark brown. The upper part of the B2 horizon is brown or yellowish brown. Mottles 2 or less in chroma are above a depth of 24 inches. The lower part of the B2 horizon is mottled gray and brown. The B3 horizon is gray and has brown and

yellow mottles or is mottled gray, brown, and yellow. The B horizon is cherty loam, cherty silt loam, or cherty silty clay loam. The C horizon is yellowish brown, mottled brown and gray, or gray cherty loam, cherty silt loam, or cherty silty clay loam.

Content of chert fragments ranges from 15 to 35 percent, by volume, in the Ap and Bt horizons, from 5 to 35 percent in the B3 horizon, and from 15 to 50 percent in the C horizon. Reaction ranges from strongly acid to medium acid throughout the profile except where the Ap horizon has been limed.

Lobelville soils are associated with Ennis, Minvale, and Stemley soils. Lobelville soils are more poorly drained than Ennis and Minvale soils. They do not have the fragipan that is characteristic of Stemley soils.

Lo—Lobelville cherty silt loam. This soil is on flood plains, along narrow drainageways, and in depressions.

Included with this soil in mapping are small areas of Ennis and Stemley soils. Also included are a few areas of soils that contain less than 15 percent chert fragments and a few areas of soils that have a surface layer of loam.

This soil can be cultivated, but the high content of chert fragments tends to make it droughty. It is well suited to pasture. There is no hazard of erosion if this soil is cultivated. Capability unit IIIw-2; woodland suitability group 2w8.

Minvale Series

The Minvale series consists of deep, well drained, gently sloping to sloping soils on uplands. These soils formed in material weathered from cherty limestone.

In a representative profile the surface layer is dark brown silt loam about 9 inches thick. The upper 38 inches of the subsoil is mainly yellowish red cherty silt loam, the middle 8 inches yellowish red cherty silty clay loam, and the lower part, to a depth of 80 inches, is yellowish red clay that has strong brown, red, and gray mottles.

Permeability is moderate. Available water capacity is medium to high.

Most of the acreage is cleared and is in row crops and pasture. The wooded areas are second-growth pine and some hardwoods. The more nearly level areas are well suited to row crops.

Representative profile of Minvale silt loam, 2 to 6 percent slopes, approximately 1 mile south of Blountsville in the NE¼NW¼ sec. 30, T. 11 S., R. 1 E.:

Ap—0 to 9 inches; dark brown (7.5YR 4/4) silt loam; weak medium granular structure; friable; many medium and fine roots; few fine chert fragments; very strongly acid; abrupt smooth boundary.

B1—9 to 13 inches; yellowish red (5YR 4/6) silt loam; weak medium subangular blocky structure; friable; many fine roots; few fine chert fragments; very strongly acid; clear smooth boundary.

B21t—13 to 32 inches; yellowish red (5YR 4/6) cherty silt loam; moderate medium subangular blocky structure; friable; common fine roots; few continuous clay films on faces of some peds; approximately 15 percent chert fragments; very strongly acid; gradual smooth boundary.

B22t—32 to 47 inches; yellowish red (5YR 5/6) cherty silt loam; moderate medium subangular blocky structure; friable; few continuous clay films on faces of some peds; few pockets of weathered chert; approximately 30 percent chert fragments; very strongly acid; gradual smooth boundary.

B23t—47 to 55 inches; yellowish red (5YR 5/6) cherty silty clay loam; moderate medium subangular blocky structure; friable; few continuous clay films on faces of some peds; 30 to 35 percent chert fragments; very strongly acid; gradual smooth boundary.

B24t—55 to 80 inches; yellowish red (5YR 5/6) clay; common medium distinct strong brown (7.5YR 5/6), red (2.5YR 4/8), and a few fine distinct gray mottles; moderate medium subangular blocky structure; firm; few clay films; few chert fragments; very strongly acid.

The Ap horizon is dark grayish brown, dark brown, or dark yellowish brown. The B1 horizon is dark brown, strong brown, or yellowish red loam, silt loam, cherty loam, or cherty silt loam. The B2t horizon is strong brown, reddish brown, yellowish red, or red cherty silt loam or cherty silty clay loam. The clay content generally increases with depth, and in some places the profile is silty clay, clay, cherty silty clay, or cherty clay below a depth of 40 inches. In most places, red, brown, and gray mottles are in the lower part of the B2t horizon.

Content of chert fragments ranges from 5 to 15 percent, by volume, in the surface layer, from 15 to 35 percent in the upper part of the B2t horizon, and from 5 to 35 percent in the lower part of the B2t horizon. Reaction is very strongly acid or strongly acid throughout the profile except where the A horizon has been limed.

Minvale soils are associated with Bodine, Decatur, Ennis, Fullerton, Lobelville, and Stemley soils. They contain fewer chert fragments than Bodine soils. They are less clayey than Decatur and Fullerton soils. Minvale soils are better drained than Lobelville and Stemley soils, and they are redder than Ennis soils.

MnB—Minvale silt loam, 2 to 6 percent slopes. This soil is on ridges. It has the profile described as representative of the series.

Included with this soil in mapping are a few small areas of Bodine, Decatur, and Fullerton soils. Also included are a few areas of soils that have a surface layer of cherty silt loam.

This soil is well suited to all locally grown crops. It is easy to work and can be tilled throughout a relatively wide range of moisture content without clodding or crusting. The hazard of erosion is slight to moderate if this soil is cultivated. Capability unit IIe-2; woodland suitability group 3o7.

MnC—Minvale silt loam, 6 to 10 percent slopes. This soil is on ridges and side slopes. It has a profile similar to the one described as representative of the series, but the surface layer is 2 inches thinner.

Included with this soil in mapping are small areas of Bodine, Decatur, and Fullerton soils. Also included are a few areas of soils that have a surface layer of cherty silt loam.

This soil is well suited to all locally grown crops. It is easy to work and can be tilled throughout a relatively wide range of moisture content without clodding and crusting. The hazard of erosion is moderate to severe if this soil is cultivated. Capability unit IIIe-2; woodland suitability group 3o7.

Montevallo Series

The Montevallo series consists of shallow, well drained, sloping to very steep soils on uplands. These soils formed in material weathered from shale.

In a representative profile the upper 2 inches of the surface layer is very dark grayish brown shaly silt loam, and the lower 5 inches is yellowish brown shaly silt loam. The subsoil is light olive brown shaly silt loam 12 inches thick. The underlying material, to a depth of 35 inches, is yellowish brown and light gray soft shale.

Permeability is moderate. Available water capacity is low to very low.

Most of the acreage is wooded. Trees are pine and mixed hardwoods. A few small areas are in pasture.

Representative profile of Montevallo shaly silt loam in an area of Montevallo-Townley complex, 15 to 45 percent slopes, 2 miles southeast of Cleveland in the SE¼SE¼ sec. 19, T. 12 S., R. 1 E.:

A11—0 to 2 inches; very dark grayish brown (10YR 3/2) shaly silt loam; weak medium granular structure; friable; many fine roots; very strongly acid; clear smooth boundary.

A12—2 to 7 inches; yellowish brown (10YR 5/4) shaly silt loam; weak medium granular structure; friable; common fine and medium roots; very strongly acid; clear wavy boundary.

B—7 to 19 inches; light olive brown (2.5YR 5/4) shaly silt loam; weak medium subangular blocky structure; friable; about 50 percent shale fragments; very strongly acid; gradual irregular boundary.

C—19 to 35 inches; yellowish brown (10YR 5/6) and light gray (10YR 7/2) layered soft shale; layers range up to 1 inch in thickness; few roots in fractures of layers.

The A horizon is very dark grayish brown, dark grayish brown, dark brown, or yellowish brown shaly silt loam or shaly loam. The B horizon is light olive brown, olive brown, yellowish brown, strong brown, or yellowish red shaly silt loam, shaly loam, shaly silty clay loam, or their very shaly counterparts. The C horizon is mainly light gray to yellowish red soft shale.

Content of shale fragments ranges from 15 to 40 percent, by volume, in the A horizon and from 35 to 90 percent in the B horizon. Shale fragments range from light gray to yellowish red. Reaction ranges from very strongly acid to medium acid throughout the profile.

Montevallo soils are associated with Albertville, Hartsells, Hector, Linker, Nectar, and Townley soils. They contain more shale fragments throughout the profile than any of the associated soils.

MtD—Montevallo-Townley complex, 6 to 15 percent slopes. This complex consists of sloping to strongly sloping soils on uplands that are dissected by drainageways and intermittent streams.

Montevallo soils make up 50 percent of the complex, and Townley soils 30 percent. Soils that are similar to Townley soils but that have a less clayey subsoil make up the remaining 20 percent. Montevallo soils are on strongly sloping middle and lower slopes. Townley soils are on sloping ridgetops and upper slopes.

Because of slope and the severe hazard of erosion, this complex is poorly suited to cultivated crops; it is better suited to woodland and, under good management, to pasture. Much of the acreage has been cleared and cropped in the past, but most of it has reverted to pine. A few small areas are in pasture. Capability unit VIe-7; Montevallo part in woodland suitability group 4d3, Townley part in woodland suitability group 4o1.

MtF—Montevallo-Townley complex, 15 to 45 percent slopes. The soils in this complex are on rough hilly uplands that have narrow winding ridgetops and steep side slopes that are dissected by drainageways and intermittent streams.

Montevallo soils make up about 50 percent of the complex, and Townley soils about 35 percent. Soils that are similar to Townley soils but that have a less clayey subsoil make up the remaining 15 percent. Montevallo soils are on middle and lower slopes. Townley soils are on ridgetops and upper slopes. A Montevallo soil in this complex has the profile described as representative of the Montevallo series. The Townley soils have a profile similar to the one described as representative of the Townley series.

Because of steep slopes and a very high hazard of erosion, this complex is not suited to cultivated crops; it is better suited to woodland. Most of the acreage is in second-growth pine and mixed hardwoods. Capability unit VIIe-7; Montevallo part in woodland suitability group 5d3, Townley part in woodland suitability group 4o1.

Nectar Series

The Nectar series consists of deep, well drained, gently sloping to strongly sloping soils on uplands. These soils formed in material weathered mainly from sandstone and shale.

In a representative profile the surface layer is brown silt loam about 7 inches thick. The upper 20 inches of the subsoil is red silty clay loam, the middle 22 inches is red clay loam that has yellowish red mottles, and the lower 6 inches is red silty clay that has yellowish red and strong brown mottles. The underlying material is red, strong brown, and yellowish brown interbedded sandstone and shale. Sandstone bedrock is at a depth of 65 inches.

Permeability is moderately slow. Available water capacity is medium to high.

Most of the acreage is cleared and is in row crops and pasture. The rest is wooded, mainly second-growth pine. The more nearly level areas are suited to row crops.

Representative profile of Nectar silt loam, 6 to 10 percent slopes, one mile southeast of Hayden, in the NE¼NE¼ sec. 28, T. 13 S., R. 2 W.:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak medium granular blocky structure; friable; many fine roots; few sandstone fragments; medium acid; abrupt smooth boundary.

B21t—7 to 27 inches; red (2.5YR 4/6) silty clay loam; moderate medium angular blocky structure; friable; few fine roots; continuous clay films on faces of peds; few sandstone fragments; very strongly acid; clear smooth boundary.

B22t—27 to 49 inches; red (2.5YR 4/6) clay loam; moderate medium angular blocky structure; friable; common medium faint yellowish red mottles; continuous clay films on faces of peds; few sandstone fragments; very strongly acid; gradual smooth boundary.

B3—49 to 55 inches; red (2.5YR 4/6) silty clay; weak medium faint yellowish red (5YR 5/6) and common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few clay films; few sandstone fragments; extremely acid; clear wavy boundary.

C—55 to 65 inches; red (2.5YR 4/6), strong brown (7.5YR 5/6), and yellowish red (5YR 5/6) interbedded sandstone and shale; extremely acid.
R—65 inches; hard sandstone bedrock.

In undisturbed areas, there is a dark grayish brown or dark brown A1 horizon 1 to 3 inches thick and a pale brown, brown, or yellowish brown A2 horizon. The B1 horizon, where present, is yellowish brown or strong brown silt loam or silty clay loam. The B2t horizon is yellowish red or red silty clay loam or clay loam. In some places the lower part of the B2t horizon has red, yellow, and brown mottles. The B3 horizon is yellowish red or red silty clay loam or silty clay and commonly has mottles in shades of red, yellow, and brown. The C horizon is strong brown, yellowish red, red, or gray soft interbedded sandstone and shale.

Content of coarse fragments, mainly of sandstone and shale, ranges from 0 to 15 percent, by volume, of the A and B2t horizons and from 5 to 35 percent of the B3 and C horizons. Reaction is extremely acid or very strongly acid throughout the profile, except where the A horizon has been limed.

Nectar soils are associated with Albertville, Hartsells, Linker, Montevallo, and Townley soils. Nectar soils are redder than Albertville soils. They have a finer textured subsoil than Hartsells and Linker soils. Nectar soils do not have the high shale content characteristic of Montevallo soils, and they are deeper to bedrock than Townley soils.

NeB—Nectar silt loam, 2 to 6 percent slopes. This soil is on ridges. It has a profile similar to the one described as representative of the series, but the surface layer is 2 inches thicker.

Included with this soil in mapping are small areas of Linker, Hartsells, and Townley soils. Also included are areas that are as much as 40 percent Albertville soils.

This soil is suited to all locally grown crops. It is fairly easy to work, but the clay content in the subsoil narrows the moisture range in which the soil can be tilled. The hazard of erosion is slight to moderate if this soil is cultivated. Most of the acreage is in row crops, hay, and pasture. Capability unit IIe-5; woodland suitability group 3o7.

NeC—Nectar silt loam, 6 to 10 percent slopes. This soil is on ridges and side slopes. It has the profile described as representative of the series.

Included with this soil in mapping are small areas of Hartsells, Linker, Montevallo, and Townley soils. Also included are areas that are as much as 40 percent Albertville soils and a few areas of soils that have a surface layer of silty clay loam 2 to 4 inches thick.

This soil is suited to all locally grown crops. It is fairly easy to work, but the high clay content of the subsoil narrows the range of moisture content in which the soil can be tilled. The hazard of erosion is moderate to severe if this soil is cultivated. Most of the acreage is in pasture and row crops. Capability unit IIIe-5; woodland suitability group 3o7.

NeD—Nectar silt loam, 10 to 15 percent slopes. This soil is on ridges and side slopes. It has a profile similar to the one described as representative for the series, but the surface layer is 2 to 3 inches thinner.

Included with this soil in mapping are small areas of Albertville, Linker, Montevallo, and Townley soils.

This soil is well suited to pasture and woodland. Because of the severe hazard of erosion, it is poorly suited to cultivated crops. It can be cultivated occasionally, however, under good management. The cultivated areas are small. Most of the acreage is in pasture and woodland. Capability unit IVe-5; woodland suitability group 3o7.

Palmerdale Series

The Palmerdale series consists of deep, somewhat excessively drained, very shaly soils. These soils formed in spoil material derived from strip mining of coal. They are gently sloping to very steep.

In a representative profile the surface layer is dark grayish brown very shaly silt loam. The underlying material, to a depth of 80 inches, is dark grayish brown very shaly silt loam.

Permeability is moderately rapid. Available water capacity is very low to low.

Most of the acreage is idle, but a few areas have been planted to pine, and a few small areas have been smoothed and are in pasture. This soil is suited to pine trees.

Representative profile of Palmerdale very shaly silt loam, approximately 2 miles southeast of Nyota in the NE¼NE¼ sec. 3, T. 14 S., R. 2 W.:

Ap—0 to 5 inches; dark grayish brown (2.5Y 4/2) very shaly silt loam; weak medium granular structure; friable; approximately 80 percent coarse fragments; mainly shale and some sandstone and coal; very strongly acid; abrupt smooth boundary.
C—5 to 80 inches; dark grayish brown (2.5Y 4/2) very shaly silt loam; weak coarse granular structure; friable; aproximately 85 percent coarse fragments; mainly shale and some sandstone and coal; very strongly acid.

The Ap horizon is dark grayish brown, grayish brown, dark yellowish brown, or yellowish brown. The C horizon is dark grayish brown, light olive brown, olive brown, dark yellowish brown, or yellowish brown very shaly loam or very shaly silt loam.

Content of coarse fragments, mainly of shale and sandstone, ranges from 40 to 90 percent, by volume, of the A horizon and from 60 to 90 percent of the C horizon. Reaction ranges from extremely acid to strongly acid throughout the profile. Palmerdale soils are associated with Albertville, Montevallo and Townley soils. They are deeper to bedrock than Montevallo and Townley soils, and they have a much higher content of coarse fragments than Albertville, Nectar, and Townley soils.

Pr—Palmerdale very shaly silt loam. Slopes range from 2 to 60 percent, but slopes of 15 to 45 percent are dominant.

Included with this soil in mapping are a few areas of more clayey spoil material derived from ore mines. Also included are a few areas of Montevallo and Townley soils.

This soil is not suited to cultivated crops or pasture in its present form. However, if smoothed it would be fairly well suited to pasture. Capability unit VIIs-7; woodland suitability group 3r2.

Remlap Series

The Remlap series consists of deep, well drained, gently sloping to strongly sloping soils on uplands. These soils formed in material weathered mainly from limestone.

In a representative profile the surface layer is brown silty clay loam about 7 inches thick. The upper 7 inches of the subsoil is yellowish red clay, the middle 34 inches is yellowish red clay that has strong brown and red mottles, and the lower part to a depth of 80 inches, is mottled red, strong brown, reddish yellow, and light gray clay.

Permeability is slow. Available water capacity is medium to high.

Most of the acreage is wooded or is in pasture. A few of the more nearly level areas are in row crops.

Representative profile of Remlap silty clay loam, 2 to 6 percent slopes, eroded, 0.2 mile north-northeast of the Birmingham industrial water system pumping station, in the NE¼NW¼ sec. 5, T. 14 S., R. 1 E.:

Ap—0 to 7 inches; brown (7.5YR 4/4) silty clay loam; weak medium granular structure; friable; common fine roots; strongly acid; abrupt smooth boundary.

B21t—7 to 14 inches; yellowish red (5YR 5/6) clay; moderate medium subangular blocky structure; very firm; continuous clay films on faces of peds; few fine roots; very strongly acid; clear smooth boundary.

B22t—14 to 30 inches; yellowish red (5YR 5/6) clay; common medium faint strong brown (7.5YR 5/6) and red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; very firm; continuous clay films on faces of peds; few light gray shale fragments; very strongly acid; gradual smooth boundary.

B23t—30 to 48 inches; yellowish red (5YR 5/6) clay; many medium faint strong brown (7.5YR 5/6) and red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; very firm; continuous clay films on faces of some peds; very strongly acid; gradual wavy boundary.

B24t—48 to 60 inches; mottled red (2.5YR 4/6), strong brown (7.5YR 5/8), and light gray (10YR 7/2) clay; moderate medium subangular blocky structure; very firm; patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

B3—60 to 80 inches; mottled reddish yellow (7.5YR 6/8), light gray (10YR 7/2), and red (2.5YR 4/6) clay; weak coarse subangular blocky structure; very firm; patchy clay films on faces of peds; very strongly acid.

The Ap horizon is dark grayish brown, brown, or yellowish brown. The B2t horizon is strong brown, yellowish red, or red clay. The B2t horizon has brown and red mottles in the upper part and is mottled red, brown, and gray in the lower part. The B3t horizon is mottled red, yellow, brown, and gray clay.

Reaction is extremely acid or very strongly acid throughout most of the profile except where the Ap horizon has been limed. The horizon immediately above limestone bedrock also is less acid.

Remlap soils are associated with Barfield, Decatur, and Tupelo soils. They are less red throughout the Bt horizon than Decatur soils. Remlap soils are deeper to bedrock than Barfield soils and are better drained than Tupelo soils.

ReB2—Remlap silty clay loam, 2 to 6 percent slopes, eroded. This soil is on ridges. It has the profile described as representative for the series.

Included with this soil in mapping are small areas of Barfield, Decatur, and Tupelo soils. Also included are a few areas of soils that have a surface layer of loam or silt loam.

This soil is suited to most locally grown crops. The clay content of the surface layer and subsoil narrows the range in moisture content in which this soil can be tilled without clodding or crusting. The hazard of erosion is moderate to severe if this soil is cultivated. There are rills and a few shallow gullies in most fields. Most of the acreage is in pasture, a few small areas are in row crops, and the rest is wooded. Capability unit IIIe-81; woodland suitability group 3c2.

ReC2—Remlap silty clay loam, 6 to 10 percent slopes, eroded. This soil is on ridges and side slopes. It has a profile similar to the one described as representative of the series, but the surface layer is about 2 inches thinner.

Included with this soil in mapping are small areas of Barfield and Decatur soils. Also included are a few areas of soils that have a surface layer of loam or silt loam.

This soil is poorly suited to cultivated crops, but it can be cultivated occasionally under good management. It is well suited to pasture. Most fields have rills and a few shallow gullies. The hazard of erosion is severe if this soil is cultivated. Most of the acreage is in pasture and woodland. Capability unit IVe-81; woodland suitability group 3c2.

ReD2—Remlap silty clay loam, 10 to 15 percent slopes, eroded. This soil is on side slopes. It has a profile similar to the one described as representative of the series, but the surface layer is 2 to 3 inches thinner.

Included with this soil in mapping are small areas of Barfield and Decatur soils. Also included are a few areas of soils that have a surface layer of loam or silt loam and a few areas in which slope is greater than 15 percent.

This soil is suited to pasture. Because of slope and the severe hazard of further erosion, it is poorly suited to row crops. Most fields have several shallow gullies. Most of the acreage is in second-growth pine. Capability unit VIe-81; woodland suitability group 3c2.

Spadra Series

The Spadra series consists of deep, well drained soils on low stream terraces that are subject to occasional flooding. These soils formed in loamy alluvium. Slopes are 0 to 3 percent.

In a representative profile the surface layer is brown fine sandy loam about 7 inches thick. The upper 34 inches of the subsoil is reddish brown loam, and the lower 18 inches is brown fine sandy loam. The underlying material, to a depth of 84 inches, is brown fine sandy loam.

Permeability is moderate. Available water capacity is medium to very high.

Most of the acreage is cleared and is in row crops and pasture. The rest is in pine and mixed hardwoods. Spadra soils are well suited to row crops and hay crops.

Representative profile of Spadra fine sandy loam, approximately 4 miles northeast of Remlap in the SW¼SW¼ sec. 32, T. 14 S., R. 1 E.:

Ap—0 to 7 inches; brown (7.5YR 4/4) fine sandy loam; weak medium granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.

B2t—7 to 41 inches; reddish brown (5YR 4/4) loam; weak medium subangular blocky structure; friable; common fine roots; few worm casts in upper part of horizon; patchy clay films on faces of most peds; very strongly acid; clear smooth boundary.

B3—41 to 59 inches; brown (7.5YR 4/4) fine sandy loam; weak fine and medium subangular blocky structure; very friable; few fine roots; very strongly acid; gradual smooth boundary.

C—59 to 84 inches; brown (7.5YR 4/4) fine sandy loam; massive (structureless); very friable; very strongly acid.

The Ap horizon is brown or dark yellowish brown. The B2t horizon is brown or reddish brown loam or sandy clay loam. The B3 and C horizons are brown or reddish brown fine loam or sandy loam.

Reaction is very strongly acid or strongly acid throughout the profile except where the A horizon has been limed.

Spadra soils are associated with Crevasse, Ellisville, and Hamblen soils. They are redder than any of the associated soils.

Sa—Spadra fine sandy loam. This soil is on low stream terraces.

Included with this soil in mapping are small areas of Crevasse, Ellisville, and Hamblen soils. Also included are a few areas of soils that have a yellower subsoil and a few areas of soils in which bedrock is at a depth of 4 feet.

This soil is suited to a wide range of crops and can be cropped intensively (fig. 4). Spadra soils can be tilled throughout a wide range of moisture content without clodding or crusting. The hazard of erosion is slight if this soil is cultivated. Capability unit I-2; woodland suitability group 2o7.

Stemley Series

The Stemley series consists of deep, moderately well drained, gently sloping soils on stream terraces. These soils formed in material weathered from cherty limestone. They have a fragipan.

In a representative profile the surface layer is brown cherty loam 6 inches thick. The upper 12 inches of the subsoil is yellowish brown cherty loam. Below this is a fragipan. The upper 12 inches of the fragipan is light yellowish brown cherty loam that has mottles in shades of brown, gray, and red; and the lower 10 inches is mottled light yellowish brown, yellowish brown, light gray, strong brown, and yellowish red cherty silty clay loam. Below the fragipan, to a depth of 65 inches, is mottled strong brown, light gray, yellowish brown, yellowish red, and red cherty silty clay loam.

Permeability is moderate above the fragipan and slow in the fragipan. Available water capacity is low above the fragipan and very low in the fragipan.

Most of the acreage is cleared and is in pasture. A few areas are cultivated, and the rest is in mixed hardwoods. This soil is suited to pasture.

Representative profile of Stemley cherty loam, 2 to 6 percent slopes, approximately 4 miles northeast of Union Hill church, in the NW¼SE¼ sec. 36, T. 11 S., R. 2 E.:

Ap—0 to 6 inches; brown (10YR 4/3) cherty loam; weak medium subangular blocky structure; friable; many fine and medium roots; 15 percent chert fragments; medium acid; clear smooth boundary.

B2t—6 to 18 inches; yellowish brown (10YR 5/4) cherty loam; weak medium subangular blocky structure; friable; few fine and medium roots; few thin patchy clay films; 15 percent chert fragments; strongly acid; clear wavy boundary.

B'x1&A'2—18 to 30 inches; light yellowish brown (2.5Y 6/4) cherty loam; many medium distinct yellowish brown (10YR 5/6) and light gray (10YR 7/1) mottles, few medium distinct strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) mottles; weak medium sub-

Figure 4.—Bales of Coastal bermudagrass hay on Spadra fine sandy loam.

angular blocky structure; slightly brittle and compact; few fine roots; few black concretions; 25 percent chert fragments; strongly acid; gradual wavy boundary.

B'x2—30 to 40 inches; mottled light yellowish brown (2.5Y 6/4), yellowish brown (10YR 5/4, 5/6), light gray (10YR 7/2), strong brown (7.5YR 5/6), and yellowish red (5YR 4/6) cherty silty clay loam; weak medium subangular blocky structure; slightly brittle and compact; many black concretions; 25 percent chert fragments; strongly acid; gradual wavy boundary.

B'3—40 to 65 inches; mottled strong brown (7.5YR 5/6), light gray (10YR 7/2), yellowish brown (10YR 5/6), yellowish red (5YR 4/6), and red (2.5YR 4/6) cherty silty clay loam; massive (structureless); firm; 30 percent chert fragments; strongly acid.

The Ap horizon is brown or dark yellowish brown. The B2t horizon is yellowish brown, light yellowish brown, or light olive brown cherty silt loam or cherty loam. Depth to the fragipan ranges from 17 to 32 inches. The B'x1 & A'2 horizon is light yellowish brown or yellowish brown mottled in shades of gray, brown, yellow, and red. It is cherty silt loam, cherty loam, or cherty silty clay loam. The Bx2 and B'3 horizons are mottled in shades of gray, brown, yellow, and red. They are cherty silt loam, cherty loam, cherty silty clay loam, or cherty clay loam.

Content of chert fragments is 15 to 35 percent, by volume, in the A and B2t horizons and 15 to 50 percent, by volume, in the A2, B'x1 & A'2, B'x2, and B3 horizons. Reaction is very strongly acid or strongly acid throughout the profile except where the A horizon has been limed.

Stemley soils are associated with Ennis, Leadvale, Lobelville, and Minvale soils. They have a fragipan which Ennis, Minvale, and Lobelville soils lack. Stemley soils are more cherty throughout the profile than Leadvale soils.

StB—Stemley cherty loam, 2 to 6 percent slopes. This soil is on stream terraces.

Included with this soil in mapping are small areas of Ennis and Lobelville soils. Also included are small areas of soils that contain less than 15 percent chert fragments above the fragipan.

This soil can be cultivated, but the high content of chert and depth to the fragipan tend to make it droughty. The hazard of erosion is moderate if this soil is cultivated. Capability unit IIe-9; woodland suitability group 3o7.

Taft Series

The Taft series consists of deep, somewhat poorly drained soils on low stream terraces and in depressions. These soils have a fragipan. The downward movement of water is retarded by the fragipan, resulting in a perched water table at or near the surface for short periods late in winter and early in spring. Slopes are 0 to 2 percent.

In a representative profile the surface layer is dark grayish brown silt loam about 8 inches thick. The upper 13 inches of the subsoil is light yellowish brown silt loam that has yellowish brown and light gray mottles. Below this, to a depth of 75 inches, it is a fragipan of yellowish brown silty clay loam mottled in shades of gray and brown.

Permeability is moderate above the fragipan and slow in the fragipan. Available water capacity is medium above the fragipan and very low in the fragipan.

Most of the acreage is cleared and is in pasture. Some areas are in mixed hardwoods, and a few areas are cultivated.

Representative profile of Taft silt loam, approximately one mile northeast of Locust Fork in the NW¼ SW¼ sec. 12, T. 13 S., R. 1 W.:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; friable; many medium and fine roots; medium acid; abrupt smooth boundary.

B2—8 to 21 inches; light yellowish brown (2.5Y 6/4) silt loam; few medium distinct light gray (10YR 7/2) and yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; common fine roots; common brown and black concretions; strongly acid; clear smooth boundary.

B'x1&A'2—21 to 25 inches; yellowish brown (10YR 5/6) silty clay loam; many medium distinct light gray (10YR 7/2) and pale brown (10YR 6/3) mottles; weak coarse prisms 2 to 5 inches in diameter, parting to weak thick platy and moderate medium subangular blocky structure; 65 percent firm and brittle prisms; few small pores and patchy clay films on faces of peds within prisms; light gray material is silt loam and is in polygonal veins surrounding prisms; few fine roots in the polygonal veins; very strongly acid; clear irregular boundary.

B'x2—25 to 51 inches; yellowish brown (10YR 5/6) silty clay loam; many fine distinct gray (10YR 6/1) mottles; weak coarse prisms 2 to 10 inches in diameter, parting to weak thick platy and moderate medium subangular blocky structure; 75 percent firm and brittle prisms; a few small pores and patchy clay films on faces of prisms; few fine roots in gray polygonal veins surrounding prisms; very strongly acid; gradual wavy boundary.

B'x3—51 to 75 inches; yellowish brown (10YR 5/6) silty clay loam; many medium distinct light gray (10YR 7/2) and few fine faint olive yellow mottles; weak thick platy structure parting to weak medium subangular blocky; firm and brittle; patchy clay films on faces of some peds; very strongly acid.

The Ap horizon is dark grayish brown, brown, pale brown, or light yellowish brown. The B2 horizon is light olive brown, light yellowish brown, brown, or yellowish brown silt loam. The B2 horizon has mottles 2 or less in chroma less than 10 inches below its upper boundary. The A'2 material is light gray or pale brown silt loam. The B'x horizon is yellowish brown, light yellowish brown, or light olive brown and has mottles in shades of gray, yellow, and brown. It is silt loam or silty clay loam.

Depth to the fragipan ranges from 20 to 36 inches. Reaction is very strongly acid or strongly acid throughout the profile except where the A horizon has been limed.

Taft soils are associated with Hamblen, Leadvale, Tupelo, and Wehadkee soils. They are not so well drained as Hamblen and Leadvale soils but are better drained than Wehadkee soils. Taft soils are not so clayey as Tupelo soils.

Ta—Taft silt loam. This soil is on low stream terraces and in depressions.

Included with this soil in mapping are small areas of Hamblen, Leadvale, and Wehadkee soils.

Taft soils are suited to most crops commonly grown in the county, but as a result of the perched water table they remain wet and cold until late in spring. This condition delays seedbed preparation and endangers germination. There is no hazard of erosion if this soil is cultivated. Capability unit IIIw-9; woodland suitability group 3w8.

Townley Series

The Townley series consists of moderately deep, well drained, gently sloping to strongly sloping soils on uplands. These soils formed in material weathered from shale and sandstone.

In a representative profile the surface layer is brown silty clay loam about 5 inches thick. The upper 5 inches of the subsoil is strong brown silty clay loam, the middle 5 inches is yellowish red clay, and the lower 15 inches is strong brown clay that has yellowish brown mottles. Bedrock is at a depth of 30 inches.

Permeability is slow. Available water capacity is low to medium.

Most of the acreage is in pasture and woodland. A few small areas are in row crops. The more nearly level areas are suited to row crops.

Representative profile of Townley silty clay loam, 6 to 15 percent slopes, approximately 2 miles west of Dallas in the NE¼NE¼ sec. 11, T. 14 S., R. 2 W.:

Ap—0 to 5 inches; brown (10YR 5/3) silty clay loam; weak medium granular structure; friable; common fine roots; few reddish sandstone fragments; very strongly acid; abrupt smooth boundary.

B1—5 to 10 inches; strong brown (7.5YR 5/6) silty clay loam; weak medium subangular blocky structure; friable; few fine roots; few reddish sandstone fragments; very strongly acid; clear smooth boundary.

B21t—10 to 15 inches; yellowish red (5YR 5/6) clay; moderate medium subangular blocky structure; firm; few fine roots; few reddish sandstone fragments; few shale fragments; patchy clay films on faces of some peds; very strongly acid; gradual smooth boundary.

B22t—15 to 30 inches; strong brown (7.5YR 5/6) clay; few medium faint light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; firm; common light gray (10YR 7/2) and red (2.5YR 4/8) patchy clay films on faces of some peds; few fine roots; extremely acid.

R—30 inches; consolidated shale bedrock.

The Ap horizon is dark brown, brown, dark yellowish brown, or yellowish brown. In undisturbed areas, there is a very dark grayish brown, dark grayish brown, or dark brown A1 horizon 1 to 4 inches thick and a pale brown, brown, or yellowish brown A2 horizon. The B1 horizon is strong brown or yellowish red silty clay loam or silty clay. The B2t horizon is strong brown, yellowish red, or red silty clay or clay. The lower part of the B2t horizon has mottles in shades of brown, yellow, and red in some places.

Content of coarse fragments, chiefly of shale and sandstone, ranges from 0 to 15 percent, by volume, throughout the profile. Reaction ranges from strongly acid to extremely acid throughout the profile except where the A horizon has been limed.

Townley soils are associated with Albertville, Montevallo, and Nectar soils. They have consolidated bedrock at a shallower depth than Albertville and Nectar soils. Townley soils have more clay and less shale fragments in the subsoil than Montevallo soils.

TnB—Townley silty clay loam, 2 to 6 percent slopes. This soil has a profile similar to the one described as representative of the series but the surface layer is about 2 inches thicker.

Included with this soil in mapping are small areas of Albertville, Nectar, and Montevallo soils. Also included are a few areas of soil that have a surface layer of silt loam or loam.

This soil is suited to most commonly grown crops in the county. It is fairly easy to work, but the high clay content in the subsoil narrows the moisture range in which the soil can be tilled. The hazard of erosion is moderate to severe if this soil is cultivated. Most of the acreage is in pasture, a few small areas are cultivated, and the rest is wooded. Capability unit IIIe-7; woodland suitability group 4o1.

TnC—Townley silty clay loam, 6 to 15 percent slopes. This soil has the profile described as representative of the series.

Included with this soil in mapping are small areas of Albertville, Montevallo, and Nectar soils. Also included are a few areas of soils that have a surface layer of silt loam or loam.

This soil is suited to pasture and woodland. It can be cultivated occasionally, however, under good management. The hazard of erosion is severe if this soil is cultivated. The cultivated areas are small. Most of the acreage is in pasture and woodland. Capability unit VIe-7; woodland suitability group 4o1.

Tupelo Series

The Tupelo series consists of deep, somewhat poorly drained soils on low stream terraces and in upland depressions. These soils formed in material weathered chiefly from limestone. Slopes are 0 to 2 percent.

In a representative profile the surface layer is dark yellowish brown silt loam about 8 inches thick. The upper 6 inches of the subsoil is light olive brown silty clay loam that has dark yellowish brown mottles, the middle 15 inches is light olive brown silty clay mottled in shades of gray and brown, and the lower 21 inches is mottled dark gray, olive, and yellowish brown clay. Limestone bedrock is at a depth of 50 inches.

Permeability is slow. Available water capacity is medium to high.

Tupelo soils are suited to pasture. Most of the acreage is cleared and is in pasture and row crops. Some areas are in mixed hardwoods.

Representative profile of Tupelo silt loam approximately 1 mile northeast of Oneonta in the NW¼SW¼ sec. 21, T. 12 S., R. 2 E.:

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; many fine roots; few black concretions; medium acid; clear smooth boundary.

B1—8 to 14 inches; light olive brown (2.5Y 5/4) silty clay loam; many medium faint dark yellowish brown (10YR 4/4) mottles; weak medium subangular blocky structure; friable; few fine roots; patchy clay films on faces of some peds; few black concretions; strongly acid; clear smooth boundary.

B21t—14 to 29 inches; light olive brown (2.5Y 5/4) silty clay; many medium distinct light brownish gray (10YR 6/2) and few medium distinct yellowish brown (10YR 5/6) mottles; moderate medium angular blocky structure; firm; few fine roots; continuous clay films on faces of most peds; few black concretions; strongly acid; gradual smooth boundary.

B22t—29 to 50 inches; mottled dark gray (5Y 4/1), olive (5Y 5/3), and yellowish brown (10YR 5/6) clay; moderate fine and medium angular blocky structure; firm; continuous clay films on faces of most peds; few black concretions; medium acid.

R—50 inches; hard limestone bedrock.

The Ap horizon is dark grayish brown, dark brown, dark yellowish brown, or grayish brown. The B1 horizon is olive brown, light olive brown, olive yellow, brown, yellowish brown, or dark yellowish brown silty clay loam or silty clay. The B21t horizon is olive brown, light olive brown, olive yellow, yellowish brown, or dark yellowish brown mottled in shades of gray, brown, and yellow. The B22t horizon is mottled in shades of gray, olive, yellow, and brown or may have a matrix of one of these colors and mottles of the other. The B21t and B22t horizons are silty clay or clay.

Reaction in the A, B1, and B21t horizons ranges from strongly acid to medium acid. Reaction in the B22t horizon ranges from medium acid to mildly alkaline.

Tupelo soils are associated with Ellisville, Hamblen, and Remlap soils. They are not so well drained as Ellisville, Hamblen, and Remlap soils. They are yellower than Remlap soils and have more clay in the subsoil than Ellisville and Hamblen soils.

Tu—Tupelo silt loam. This soil has slopes of 0 to 2 percent.

Included with this soil in mapping are small areas of Ellisville, Lobelville, and Remlap soils. Also included are a few areas of soils that have a surface layer of silty clay loam.

In most years, this soil remains wet and is slow to warm up in spring. This condition limits the range of cultivated crops that can safely be grown. It is suited to pasture (fig. 5). The hazard of erosion is slight if this soil is cultivated. Capability unit IIIw-8; woodland suitability group 4c2.

Wehadkee Series

The Wehadkee series consists of deep, poorly drained soils. These soils formed in loamy alluvium along narrow drainageways and on flood plains. They are subject to frequent flooding. The seasonal high water table is at or near the surface layer for long periods. Slopes are 0 to 2 percent.

In a representative profile the surface layer is dark grayish brown silt loam 5 inches thick. The upper 4 inches of the subsoil is light gray loam that has dark brown mottles, and the lower 33 inches is light brownish gray and gray silty clay loam that has yellowish brown mottles. The underlying material, to a depth of 52 inches, is gray silty clay loam that has yellowish brown mottles. This overlies a layer of yellowish brown cherty sand that extends to a depth of 70 inches.

Permeability is moderate. Available water capacity is high.

Most of the acreage is in pasture and mixed hardwoods. A few small areas are cultivated. These soils are suited to pasture.

Representative profile of Wehadkee silt loam in an area of Wehadkee soils approximately 2 miles southeast of Blountsville in the NE¼SW¼ sec. 20, T. 11 S., R. 1 E.:

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.

B1g—5 to 9 inches; light gray (10YR 7/2) loam; few medium distinct dark brown (7.5YR 4/4) mottles; weak medium subangular blocky structure; friable; common fine roots; very strongly acid; clear smooth boundary.

B2g—9 to 28 inches; light brownish gray (10YR 6/2) silty clay loam; many medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; few black concre-

Figure 5.—Fescue-grass pasture on Tupelo silt loam.

tions; few black stains on faces of some peds; medium acid; clear smooth boundary.

B3g—28 to 42 inches; gray (10YR 6/1) silty clay loam; many medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; common black concretions; slightly acid; clear smooth boundary.

C1g—42 to 52 inches; gray (10YR 5/1) silty clay loam; few medium distinct yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; friable; few fine black and brown concretions; neutral; clear smooth boundary.

IIC2—52 to 70 inches; yellowish brown (10YR 5/4) cherty sand; single grained (structureless); loose; 40 to 50 percent angular and rounded chert fragments; mildly alkaline.

The A horizon is dark grayish brown, grayish brown, or brown silt loam or loam. The Bg horizon is light gray, light brownish gray, or gray and has mottles in shades of brown and yellow. It is loam, silt loam, or silty clay loam. The Cg horizon is similar to the Bg horizon in color and texture. There is a IIC horizon of stratified sand and gravel below a depth of 40 inches in some places.

Reaction is strongly acid or very strongly acid in the A and B1g horizons and is medium acid to mildly alkaline throughout the rest of the profile.

The Wehadkee soils mapped in this county do not have the mica content defined in the range for the series, but this difference does not alter their usefulness and behavior.

Wehadkee soils are associated with Leadvale, Lobelville, Stemley, and Taft soils. They are more poorly drained than any of the associated soils. Wehadkee soils do not have the fragipan characteristics of Leadvale, Stemley, and Taft soils.

Wa—Wehadkee soils. This complex is along narrow drainageways and on flood plains.

This mapping unit is dominantly Wehadkee soils, but poorly drained soils that have a coarser textured subsoil, soils that contain an appreciable content of chert, and a few areas of somewhat poorly drained soils that have a finer textured subsoil are also included in mapping.

This soil is poorly suited to row crops because of poor drainage and the hazard of flooding. It is suited to pasture and woodland. Capability unit IVw-2; woodland suitability group 1w9.

Wynnville Series

The Wynnville series consists of deep, moderately well drained, gently sloping soils on uplands. These soils formed in material weathered chiefly from sandstone. They have a fragipan.

In a representative profile the surface layer is yellowish brown fine sandy loam about 7 inches thick. To a depth of 23 inches, the subsoil is yellowish brown loam. Below this, to a depth of 33 inches, are pockets and bands of light gray sandy loam and a fragipan of yellowish brown loam that has yellowish red mottles. The lower part of the fragipan, to a depth of 48 inches, is mottled yellowish brown, yellowish red and light gray sandy clay loam. The next layer is strong brown sandy clay loam that has yellowish red mottles. Sandstone bedrock is at a depth of 72 inches.

Permeability is moderate above the fragipan and slow in the fragipan. Available water capacity is medium above the fragipan and very low in the fragipan.

Most of the acreage is cleared and is in row crops and pasture. The rest is in mixed hardwoods and pine. Wynnville soils are well suited to row crops.

Representative profile of Wynnville fine sandy loam, 2 to 6 percent slopes, approximately 3 miles northwest of Susan Moore School in the NE¼SE¼ sec. 35, T. 13 S., R. 1 W.:

Ap—0 to 7 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium granular structure; very friable; common fine roots; medium acid; abrupt smooth boundary.

B2—7 to 23 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few fine roots; few sandstone pebbles; few worm casts; few fine black concretions; strongly acid; clear smooth boundary.

A'2 & B'x1—23 to 33 inches; light gray (10YR 7/2) sandy loam (A'2) in pockets, discontinuous bands, and vertical cracks; weak medium granular structure; friable; and yellowish brown (10YR 5/6) loam (B'x1) that has common medium distinct yellowish red (5YR 5/6) mottles; weak thick platy structure parting to fine and medium subangular blocky; firm and brittle; discontinuous clay films on faces of some peds; few sandstone fragments; light gray (10YR 7/2) coatings on faces of some peds; few fine roots in vertical cracks; very strongly acid; clear irregular boundary.

B'x2—33 to 48 inches; mottled yellowish brown (10YR 5/6), yellowish red (5YR 5/6), and light gray (10YR 7/2) sandy clay loam; weak thick platy structure parting to moderate medium subangular blocky; firm and brittle; continuous clay films on faces of some peds; few sandstone fragments; few vesicular pores and vertical cracks that contain light gray material; very strongly acid; gradual smooth boundary.

B'2t—48 to 72 inches; strong brown (7.5YR 5/6) sandy clay loam; few fine faint yellowish red mottles; weak medium subangular blocky structure; friable; patchy clay films on faces of some peds; few sandstone fragments; vertical cracks filled with light gray material; strongly acid.

The Ap horizon is dark brown or yellowish brown. The B2 horizon is light olive brown, yellowish brown, or strong brown loam or silt loam. The A'2 horizon is light gray or pale brown sandy loam or loam. Depth to the fragipan ranges from 18 to 36 inches. The B'x1 horizon is light olive brown, yellowish brown, strong brown, or yellowish red mottled in shades of gray, brown, olive, or red. The B'x2 horizon is yellowish brown, strong brown, yellowish red, or red mottled in shades of gray, brown, or red. It is loam or sandy clay loam. The B'2t horizon is strong brown, yellowish red, or red or is mottled in shades of brown, red, and gray. The B'2t horizon is loam, sandy clay loam, or clay loam.

Content of coarse fragments ranges from 0 to 15 percent, by volume, throughout the profile. Reaction ranges from extremely acid to strongly acid throughout the profile except where the A horizon has been limed.

Wynnville soils are associated with Albertville, Hartsells, Linker, and Nectar soils. They have a fragipan, which the associated soils lack.

WnB—Wynnville fine sandy loam, 2 to 6 percent slopes. This soil is on ridges.

Included with this soil in mapping are small areas of Albertville, Hartsells, Linker, and Nectar soils. Also included are a few areas of soils that have a coarser textured subsoil above the fragipan and a few areas of soils in which the fragipan is intermittent. Also included are a few areas of soils that have a surface layer of loam or silt loam.

This soil is suited to most crops (fig. 6) commonly

Figure 6.—Cotton ready to be harvested on Wynnville fine sandy loam, 2 to 6 percent slopes.

grown in the county. It is easy to work and can be tilled throughout a fairly wide range of moisture content without clodding or crusting. The fragipan slows the downward movement of roots and water. During wet seasons the subsoil is waterlogged for short periods. The hazard of erosion is slight to moderate if this soil is cultivated. Capability unit IIe-9; woodland suitability group 3o7.

Use and Management of the Soils

This section discusses the use and management of the soils in Blount County for crops and pasture, woodland, and wildlife habitat. It also explains how the soils can be managed for engineering, town and country, and recreational uses.

Crops and Pasture[2]

About 40 percent of Blount County is in crops and pasture. The major crops grown are cotton, soybeans, corn, oats, tomatoes, peaches, and watermelons. The main pasture plants are fescue, bahiagrass, common bermudagrass, Coastal bermudagrass, and sericea.

This section explains how the soils of Blount County can be managed for crops and pasture. It describes the classification system used by the Soil Conservation Service and discusses management practices for groups of soils that have similar potentials and requirements. It then gives estimates of the average yields of the commonly grown crops.

All of the soils in Blount County suited to crops and pasture are relatively low in organic matter and in natural fertility. Other significant management concerns that require attention are erosion on sloping land, drainage of wet soils, and selection of plants that are well suited to the soil. Conservation practices that will help overcome these hazards are discussed under "General Principles of Soil Management."

General principles of soil management

Good cropland management that results in good stands and rapid growth will provide some protection from soil erosion, will increase the amount of crop residue returned to the soil, and will improve crop yields.

Some of the management practices that are needed

[2] LEWIS WILLIAMS, conservation agronomist, Soil Conservation Service, assisted in preparing this section.

on all cropped soils are briefly described in the following paragraphs.

Lime and fertilizer.—Lime and fertilizer needs should always be determined by soil testing. All soils in Blount County respond well to lime and fertilizer.

Crop varieties.—Those varieties that have been tested and recommended for the area by Auburn University Experiment Station should be used.

Land preparation.—The seedbed should be adequately prepared for the crop to be grown. Depth of plowing should be varied to prevent a compacted layer, or plowpan, from forming. Preparing seedbeds too far in advance of planting will result in excessive soil erosion.

Planting.—Crops should be planted by a suitable method, at the proper rate, and at the right time.

Weed, insect, and disease control.—Controlling crop pests is essential to growing strong, healthy crops.

Conservation practices need to be specifically planned to fit the soil and the cropping system used. Soils that are nearly level generally do not require extensive application of conservation practices, but those that are strongly sloping commonly require several practices to effectively reduce runoff and erosion.

Some of the most common practices used on sloping, upland soils are described in the following paragraphs.

Conservation cropping systems.—This practice is often referred to as crop rotation. Cropping systems that include the use of close-growing sod crops are very effective in controlling erosion, reducing runoff, reducing problems from crop pests, and increasing crop yields.

Contour farming.—Farming on the contour results in slower movement of runoff water. This gives water more time to be absorbed by the soil.

Minimum tillage.—Reducing the number of tillage operations results in less soil compaction. Minimum tillage practices that are performed by planting in narrow seedbeds and leaving residue on the rest of the soil surface are very effective in reducing runoff and erosion.

Terraces.—Properly constructed terraces are effective in reducing erosion. Well established grassed waterways or grassed disposal areas are essential for safe disposal of runoff water at terrace outlets. Terrace systems that use underground tile outlets can be used on some soils where waterways are difficult to establish and maintain.

Contour stripcropping.—Alternate strips of cultivated crops and close-growing crops that follow the contour are very effective in controlling erosion.

Grassed waterways.—Natural drainageways or constructed outlets need to be established and maintained in perennial sod-forming grass. Well established waterways will prevent gullies from forming where concentrated runoff water leaves the field.

Crop residue management.—Crop residue should be shredded and left on the surface until the soil is prepared for the next crop.

Cover crops.—Soils that are left bare after harvest operations should be planted to cover crops to prevent erosion and to provide residue to be returned to the soil.

Good management practices are very important in establishing and maintaining pasture and hayland. Several practices that apply to all soils used for grassland are described in the following paragraphs.

Proper fertilization.—Lime and fertilizer should be applied according to soil test results.

Rotational grazing.—Removing livestock from pasture to allow the plants to regrow increases the life of the stand.

Proper grazing or cutting height.—A good ground cover should be maintained at all times by rotational grazing or by adjusting stocking areas. Overgrazed pasture results in weak plants that can die or becomes infested with weeds.

Weed control.—Weeds should be controlled by mowing or spraying with recommended herbicides.

Scattering droppings.—Droppings may sometime need scattering on heavily grazed pastures to increase utilization of forage.

Capability grouping

Capability grouping shows, in a general way, the suitability of soils for most field crops. The groups are made according to the limitations of the soils for field crops, the risk of damage when they are used for field crops, and the way they respond to treatment. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils. It does not apply to rice, cranberries, horticultural crops, or other crops that require special management.

Those familiar with the capability classification can infer from it much about the behavior of soils when they are used for other purposes, but this classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for range sites, for forest trees, for engineering uses, or for urban uses.

In the capability system, all soils are grouped at three levels: the capability class, subclass, and unit. These are discussed in the following paragraphs.

CAPABILITY CLASSES, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use, defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants, require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit

their use largely to pasture, range, woodland, or wildlife habitat. (No Class V soils in Blount County.)

Class VI soils have severe limitations that make them generally unsuited to cultivated crops and limit their use largely to pasture, range, woodland, or wildlife habitat.

Class VII soils have very severe limitations that make them unsuited to cultivated crops and that restrict their use largely to pasture, range, woodland, or wildlife habitat.

Class VIII soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife habitat, water supply, or esthetic purposes. (No Class VIII soils in Blount County.)

CAPABILITY SUBCLASSES are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partially corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is too cold or too dry.

There are no subclasses in Class I because these soils have few limitations. Class V can contain, at the most, only the subclasses indicated by *w*, *s*, and *c*, because these soils are subject to little or no erosion, though they have other limitations that restrict their use largely to pasture, range, woodland, wildlife habitat, or recreation.

CAPABILITY UNITS are soil groups within the subclasses. The soils in one capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity and other responses to management. Thus, the capability unit is a convenient grouping for making many statements about management of soils. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-2 or IIIe-5. Thus, in one symbol, the Roman numeral designates the capability class, or degree of limitation; the small letter indicates the subclass, or kind of limitation, as defined in the foregoing paragraph; and the Arabic numeral specifically identifies the capability unit within each subclass.

Management by capability units

In this section the soils of the county that require about the same kind of management are grouped in capability units. The significant features of the soils in each capability unit, together with their hazards and limitations, are described and suggestions for use and management are given. The capability unit for each soil can be found by referring to the section "Descriptions of the Soils." The capability units are not numbered consecutively because not all the units used in Alabama are in this county.

Specific statements about the amount of lime and kind and amount of fertilizer to use are not given in the suggestions for management. Lime and fertilizer should be applied according to the results of soil tests and field trials.

Further information about specific management can be obtained from the local representative of the Soil Conservation Service, the Extension Service, or the Agricultural Experiment Station.

CAPABILITY UNIT I-2

Spadra fine sandy loam is the only soil in this capability unit. It is a deep, well drained soil on low stream terraces. The surface layer and subsoil are loamy. Slopes are 0 to 3 percent.

Permeability is moderate. Available water capacity is medium to very high. Runoff is slow to medium. The hazard of erosion is slight if this soil is cultivated.

Cotton, corn, soybeans, small grain, and the locally grown grasses and legumes are suited to these soils. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Row crops can be grown each year.

CAPABILITY UNIT IIe-1

This capability unit consists of deep, well drained soils on uplands. The surface layer is loamy and the subsoil is clayey. Some of the soils contain chert fragments throughout the profile. Slopes are 2 to 6 percent.

Permeability is moderate. Available water capacity is medium to high. Runoff is medium. The hazard of erosion is moderate if these soils are cultivated.

Cotton, corn, soybeans, small grain, and the locally grown grasses and legumes are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can be grown each year if good conservation practices are applied.

CAPABILITY UNIT IIe-2

This capability unit consists of deep, well drained soils on uplands. The surface layer and subsoil are loamy. Some of the soils contain chert fragments throughout the profile. Slopes are 2 to 6 percent.

Permeability is moderate. Available water capacity is medium to high. Runoff is slow to medium. The hazard of erosion is slight to moderate if these soils are cultivated.

Cotton, corn, soybeans, small grain, and the locally grown grasses and legumes are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can be grown each year if good conservation practices are applied.

CAPABILITY UNIT IIe-5

This capability unit consists of deep, well drained soils on uplands. The surface layer is loamy and the subsoil is loamy and clayey. Slopes are 2 to 6 percent.

Permeability is moderately slow. Available water capacity is medium to high. Runoff is medium. The hazard of erosion is moderate if these soils are cultivated.

Cotton, corn, soybeans, small grain, tomatoes, peaches, watermelons, and the locally grown grasses and legumes are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can be grown each year if good conservation practices are applied.

CAPABILITY UNIT IIe-6

This capability unit consists of moderately deep, well drained soils on uplands. The surface layer and subsoil are loamy. Sandstone bedrock is at a depth of 20 to 40 inches. Slopes are 2 to 6 percent.

Permeability is moderate. Available water capacity is medium to high. Runoff is slow to medium. The hazard of erosion is slight to moderate if these soils are cultivated.

Cotton, corn, soybeans, small grain, tomatoes, watermelons, peaches, and the locally grown grasses and legumes are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways (fig. 7), and minimum tillage help to reduce erosion on cultivated fields. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can be grown each year if good conservation practices are applied.

CAPABILITY UNIT IIe-9

This capability unit consists of deep, moderately well drained soils on uplands and stream terraces. The surface layer and subsoil are loamy. A fragipan is at a depth of 17 to 36 inches. Some of the soils contain chert fragments throughout the profile. Slopes are 2 to 6 percent.

Permeability is moderate above the fragipan and slow within the fragipan. Available water capacity is low to medium above the fragipan and very low in the fragipan. Runoff is slow to medium. The hazard of erosion is slight to moderate if the soils are cultivated.

Cotton, corn, soybeans, small grain, and the locally grown grasses and legumes are suited to these soils. In addition, the soils on uplands are suited to tomatoes, peaches, and watermelons. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can

Figure 7.—**Fescue-grass waterway on Hartsells fine sandy loam, 2 to 6 percent slopes. This grass waterway safely removes water from the corn field.**

be grown each year if good conservation practices are applied.

CAPABILITY UNIT IIw-2

This capability unit consists of deep, well drained and moderately well drained soils on flood plains. The surface layer and subsoil are loamy. Slopes are 0 to 2 percent.

Permeability is moderate. Available water capacity is medium to high. The soils are subject to occasional flooding for brief periods, mostly late in winter and early in spring. Runoff is slow to ponded. There is no serious hazard of erosion if these soils are cultivated.

Cotton, corn, soybeans, and the locally grown grasses and legumes are suited to these soils. Summer crops will seldom be damaged by flooding. Small grain is more likely to be damaged by flooding than crops grown in summer are. Shallow ditches and row arrangement can often be used to remove excess surface water and prevent ponding. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can be grown each year.

CAPABILITY UNIT IIw-9

Leadvale silt loam, 0 to 2 percent slopes, is the only soil in this capability unit. It is a deep, moderately well drained soil on stream terraces. The surface layer and subsoil are loamy. A fragipan is at a depth of 20 to 36 inches.

Permeability is moderate above the fragipan and moderately slow within the fragipan. Available water capacity is medium above the fragipan and very low in the fragipan. Runoff is slow to ponded. There is no serious hazard of erosion if this soil is cultivated.

Cotton, corn, soybeans, small grain, and the locally grown grasses and legumes are suited to this soil. Row arrangement and grassed water outlets can be used in many places to remove excess surface water and prevent ponding. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can be grown each year.

CAPABILITY UNIT IIs-2

Ennis cherty silt loam is the only soil in this capability unit. It is a deep, well drained soil on flood plains. It contains chert fragments throughout the profile. The surface layer and subsoil are loamy. Slopes are 0 to 2 percent.

Permeability is moderately rapid. Available water capacity is medium. This soil is subject to occasional flooding for brief periods, mostly late in winter and early in spring. Runoff is slow. There is no serious hazard of erosion if this soil is cultivated.

This soil is well suited to the locally grown grasses and legumes. Cotton, corn, soybeans, and small grain can be grown, but the coarse fragments interfere with tillage operations and tend to make this soil somewhat droughty. Row crops can be grown each year, but greatly reduced yields can be expected during dry years.

CAPABILITY UNIT IIIe-1

This capability unit consists of deep, well drained soils on uplands. The surface layer is loamy and the subsoil is clayey. Some of the soils contain chert fragments throughout the profile. Slopes are 6 to 10 percent.

Permeability is moderate. Available water capacity is medium to high. Runoff is medium to rapid. The hazard of erosion is moderate to severe if these soils are cultivated.

Cotton, corn, soybeans, small grain, and the locally grown grasses and legumes are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Stripcropping can be used on many fields if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. A cropping system that includes a close-growing sod crop one year out of three is needed.

CAPABILITY UNIT IIIe-2

This capability unit consists of deep, well drained soils on uplands. The surface layer and subsoil are loamy. Some of the soils contain chert fragments throughout the profile. Slopes are 6 to 10 percent.

Permeability is moderate. Available water capacity is medium to high. Runoff is medium to rapid. The hazard of erosion is moderate to severe if these soils are cultivated.

Cotton, corn, soybeans, small grain, and the locally grown grasses and legumes are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Stripcropping can be used on many fields if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. A cropping system that includes a close-growing sod crop one year out of three is needed.

CAPABILITY UNIT IIIe-5

This capability unit consists of deep, well drained soils on uplands. The surface layer is loamy and the subsoil is loamy and clayey. Slopes are 6 to 10 percent.

Permeability is mainly moderately slow. Available water capacity is medium to high. Runoff is medium to rapid. The hazard of erosion is moderate to severe if these soils are cultivated.

Cotton, corn, soybeans, small grain, tomatoes, peaches, watermelons, and the locally grown grasses and legumes are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Stripcropping can be used on many fields if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. A cropping system that includes a close-growing sod crop one year out of three is needed.

CAPABILITY UNIT IIIe-6

This capability unit consists of moderately deep, well drained soils on uplands. The surface layer and subsoil are loamy. Sandstone bedrock is at a depth of 20 to 40 inches. Slopes are 6 to 10 percent.

Permeability is moderate. Available water capacity is medium to high. Runoff is medium to rapid. The hazard of erosion is moderate to severe if these soils are cultivated.

Cotton, corn, soybeans, small grain, tomatoes, peaches, watermelons, and the locally grown grasses and legumes are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces (fig. 8), grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Stripcropping can be used if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. A cropping system that includes a close-growing sod crop one year out of three is needed.

CAPABILITY UNIT IIIe-7

Townley silty clay loam, 2 to 6 percent slopes, is the only soil in this capability unit. It is a moderately deep, well drained soil on uplands. The surface layer is loamy, and the subsoil is clayey. Hard sandstone or shale bedrock is at a depth of 20 to 40 inches.

Permeability is slow. Available water capacity is low to medium. Runoff is medium. The hazard of erosion is severe if this soil is cultivated.

The locally grown grasses and legumes are well suited to this soil. Cotton, corn, soybeans, and small grain can be grown, but the surface layer has poor tilth and obtaining a stand of the crop is difficult. Conservation practices are needed if this soil is cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Stripcropping can be used if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic matter content and improve soil tilth. A cropping system that includes the use of a perennial sod crop two years out of three is needed.

CAPABILITY UNIT IIIe-81

Remlap silty clay loam, 2 to 6 percent slopes, eroded, is the only soil in this capability unit. It is a deep, well drained soil on uplands. The surface layer is loamy, and the subsoil is clayey.

Permeability is slow. Available water capacity is medium to high. Runoff is medium. The hazard of erosion is severe if this soil is cultivated.

The locally grown grasses and legumes are well suited to these soils. Cotton, corn, soybeans, and small grain can be grown, but the surface layer generally has poor tilth and obtaining a stand of the crop is difficult. Conservation practices are needed if this soil is cultivated. Contour farming, terraces, grassed waterways, and minimum tillage help to reduce erosion on cultivated fields. Stripcropping can be used if terraces are difficult to install and maintain. Return of crop residue to the soil helps to maintain organic-matter content and improve soil tilth. A cropping system that includes the use of a perennial sod crop two years out of three is needed.

Figure 8.—Tomatoes growing on Hartsells fine sandy loam, 6 to 10 percent slopes.

CAPABILITY UNIT IIIw-2

Lobelville cherty silt loam is the only soil in this capability unit. It is a deep, moderately well drained soil on flood plains. The surface layer and subsoil are loamy. This soil contains chert fragments throughout the profile. Slopes are 0 to 2 percent.

Permeability is moderate. Available water capacity is low to medium. This soil is subject to occasional flooding. Runoff is slow to ponded. There is no serious hazard of erosion if this soil is cultivated.

The locally grown grasses and legumes are well suited to this soil. Cotton, corn, and soybeans can be grown, but the high water table often delays seedbed preparation and the coarse fragments interfere with tillage and tend to make the soil droughty. Crops are occasionally damaged by flooding. Shallow ditches and row arrangement help to remove excess surface water and prevent ponding in places. Return of crop residue to the soil helps to maintain organic-matter content. Cultivated crops can be grown each year.

CAPABILITY UNIT IIIw-8

Tupelo silt loam is the only soil in this capability unit. It consists of deep, somewhat poorly drained soils on low stream terraces and upland depressions. The surface layer is loamy, and the subsoil is clayey. Slopes are 0 to 2 percent.

Permeability is slow. Available water capacity is medium to high. Some areas are subject to brief periods of overflow and ponding. Runoff is slow to ponded. There is no serious hazard of erosion if this soil is cultivated.

The locally grown grasses and legumes are well suited to this soil. Corn and soybeans can be grown, but the soil remains wet and is slow to warm up in spring. Crops are occasionally damaged by flooding and ponding. Shallow ditches and row arrangement can help to remove excess surface water and prevent ponding. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can be grown each year.

CAPABILITY UNIT IIIw-9

Taft silt loam is the only soil in this capability unit. It is a deep, somewhat poorly drained soil on low stream terraces. The surface layer and subsoil are loamy. A fragipan is at a depth of 20 to 36 inches. Slopes are 0 to 2 percent.

Permeability is moderate above the fragipan and slow within the fragipan. Available water capacity is medium above the fragipan and very low in the fragipan. Runoff is slow to ponded. There is no serious hazard of erosion if this soil is cultivated.

The locally grown grasses and legumes are well suited to this soil. Corn and soybeans can be grown, but the soil remains wet and is slow to warm up in spring. Shallow ditches and row arrangement help to remove excess surface water and prevent ponding. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. Cultivated crops can be grown each year.

CAPABILITY UNIT IIIs-4

Crevasse loamy fine sand is the only soil in this unit. It is a deep, excessively drained soil on flood plains. The surface layer and the underlying material are sandy. Slopes are 0 to 2 percent.

Permeability is rapid. Available water capacity is low to very low. This soil is subject to occasional flooding. Runoff is slow. There is no serious hazard of erosion if this soil is cultivated.

Coastal bermudagrass, fescue, and sericea are suited to this soil. Corn and oats can be grown, but the soil is droughty, which greatly reduces yields. Crops are occasionally damaged by flooding. Return of crop residue to the soil helps to maintain organic-matter content. Cultivated crops can be grown each year.

CAPABILITY UNIT IVe-1

Fullerton cherty silt loam, 10 to 15 percent slopes, is the only soil in this capability unit. It is a deep, well drained soil on uplands. The surface layer is loamy, and the subsoil is clayey. This soil contains chert fragments throughout the profile.

Permeability is moderate. Available water capacity is medium. Runoff is rapid. The hazard of erosion is severe if this soil is cultivated.

This soil is mainly in woodland and pasture. It is well suited to the locally grown pasture plants and to such close-growing crops as small grain. Conservation practices are needed if this soil is cultivated. Contour farming, terraces, grassed waterways, and minimum tillage are effective conservation practices. Stripcropping can be used on many fields if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. A cropping system that includes the use of perennial sod crops at least three years out of four is needed.

CAPABILITY UNIT IVe-11

Decatur silty clay loam, 4 to 15 percent slopes, eroded, is the only soil in this capability unit. It is a deep, well drained soil on uplands. The surface layer is loamy, and the subsoil is clayey.

Permeability is moderate. Available water capacity is medium to high. Runoff is medium to rapid. The hazard of erosion is severe if this soil is cultivated or left bare.

The locally grown pasture plants and woodland are well suited to this soil. Conservation practices are needed if this soil is cultivated, but they are difficult to install and maintain. Continuous sod crops is a suitable cropping system.

CAPABILITY UNIT IVe-2

Allen loam, 10 to 15 percent slopes, is the only soil in this capability unit. It is a deep, well drained soil on uplands. The surface layer and subsoil are loamy.

Permeability is moderate. Available water capacity is medium to high. Runoff is rapid. The hazard of erosion is severe if this soil is cultivated.

This soil is mainly in woodland and pasture. The locally grown pasture plants and such close-growing

crops as small grain are well suited to this soil. Conservation practices are needed if this soil is cultivated. Contour farming, terraces, grassed waterways, and minimum tillage are effective. Stripcropping can be used on many fields if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. A cropping system that includes perennial sod crops at least three years out of four is needed.

CAPABILITY UNIT IVe-5

This capability unit consists of deep, well drained soils on uplands. The surface layer is loamy, and the subsoil is loamy and clayey. Slopes are 10 to 15 percent.

Permeability is moderately slow. Available water capacity is medium to high. Runoff is rapid. The hazard of erosion is severe if these soils are cultivated.

Peach orchards and the locally grown pasture plants are suited to these soils. Conservation practices are needed if these soils are cultivated. Contour farming, terraces, grassed waterways, and minimum tillage are effective conservation practices. Stripcropping can be used on many fields if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. A cropping system that includes perennial sod crops at least three years out of four is needed.

CAPABILITY UNIT IVe-6

Linker fine sandy loam, 10 to 15 percent slopes, is the only soil in this capability unit. It is a moderately deep, well drained soil on uplands. The surface layer and subsoil are loamy. Sandstone bedrock is at a depth of 20 to 40 inches.

Permeability is moderate. Available water capacity is medium to high. Runoff is rapid. The hazard of erosion is severe if this soil is cultivated.

Peach orchards and the locally grown pasture plants are suited to this soil. Conservation practices are needed if this soil is cultivated. Contour farming, terraces, grassed waterways, and minimum tillage are effective conservation practices. Stripcropping can be used on many fields if terraces are difficult to install. Return of crop residue to the soil helps to maintain organic-matter content and promote good tilth. A cropping system that includes perennial sod crops at least three years out of four is needed.

CAPABILITY UNIT IVe-81

Remlap silty clay loam, 6 to 10 percent slopes, eroded, is the only soil in this capability unit. It is a deep, well drained soil on uplands. The surface layer is loamy, and the subsoil is clayey.

Permeability is slow. Available water capacity is medium to high. Runoff is medium to rapid. The hazard of erosion is severe if this soil is left bare.

Trees and the locally grown pasture plants are suited to this soil. Conservation practices are needed if this soil is cultivated, but they are difficult to install and maintain. Continuous sod crops make up a suitable cropping system.

CAPABILITY UNIT IVw-2

This capability unit consists of Wehadkee soils. They are deep, poorly drained soils on flood plains. The surface layer and subsoil are loamy. Slopes are 0 to 2 percent.

Permeability is moderate. Available water capacity is high. The soils are subject to frequent flooding. Runoff is slow to ponded. There is no hazard of erosion if these soils are cultivated.

Tall fescue and white clover are suited to these soils. Corn and soybeans can be grown if a good drainage system is installed and the hazard of flooding is overcome. Drainage outlets are seldom available, and flooding is difficult to overcome. Wetness usually delays seedbed preparation and planting. Surface field ditches are needed for both pasture and cultivated areas. Erosion control practices are not needed on this soil.

CAPABILITY UNIT VIe-2

Allen loam, 15 to 25 percent slopes, is the only soil in this capability unit. It is a deep, well drained soil on uplands. The surface layer and subsoil are loamy.

Permeability is moderate. Available water capacity is medium to high. Runoff is rapid. The hazard of erosion is severe if this soil is left bare.

Trees and the locally grown pasture plants are suited to this soil. It should be kept in perennial sod crops or trees.

CAPABILITY UNIT VIe-7

This capability unit consists of shallow and moderately deep, well drained soils on uplands. The surface layer is loamy, and the subsoil is loamy and clayey. Some of these soils contain shale fragments throughout the profile and some are intermingled with Rock outcrop. Shale or sandstone bedrock is at a depth of 8 to 40 inches. Slopes are 2 to 15 percent.

Permeability is rapid to slow. Available water capacity is very low to medium. Runoff is medium to rapid. The hazard of erosion is severe if these soils are left bare.

These soils are well suited to woodland. They can be used for peach orchards and pasture, but grasses and legumes are difficult to establish because of Rock outcrop and steep slopes. The locally grown grasses and legumes are suitable for pasture.

CAPABILITY UNIT VIe-81

Remlap silty clay loam, 10 to 15 percent slopes, eroded, is the only soil in this capability unit. It is a deep, well drained soil on uplands. The surface layer is loamy, and the subsoil is clayey.

Permeability is slow. Available water capacity is medium to high. Runoff is rapid. The hazard of erosion is severe if this soil is left bare.

Trees and the locally grown pasture plants are suited to this soil, which should be kept in perennial sod crops or trees.

CAPABILITY UNIT VIe-3

Bodine cherty silt loam, 6 to 15 percent slopes, is the only soil in this capability unit. It is a deep, well

drained or excessively drained soil on uplands. The surface layer and subsoil are loamy. This soil contains chert fragments throughout the profile.

Permeability is rapid. Available water capacity is low to medium. Runoff is medium to rapid. The hazard of erosion is severe if this soil is left bare.

Because of coarse fragments on the surface, this soil is not suited to cultivated crops. Tall fescue and sericea lespedeza are suited to this soil. Pasture preparation and management operations are difficult in some fields because of coarse fragments on the surface. Trees are well suited to this soil. This soil should be kept in perennial sod crops or trees.

CAPABILITY UNIT VIIs-7

This capability unit consists of shallow and moderately deep, well drained soils on uplands. The surface layer is loamy, and the subsoil is loamy and clayey. Some of these soils contain shale fragments throughout the profile, and some are intermingled with Rock outcrop. Slopes are 10 to 45 percent.

Permeability is rapid to slow. Available water capacity is very low to medium. Runoff is rapid. The hazard of erosion is severe if these soils are left bare.

Because of steep slopes and Rock outcrop, these soils are not suited to cultivated crops or pasture. They are suited to woodland.

CAPABILITY UNIT VIIs-3

Bodine cherty silt loam, 15 to 45 percent slopes, is the only soil in this capability unit. It is a deep, well drained or excessively drained soil on uplands. The surface layer and subsoil are loamy. This soil contains chert fragments throughout the profile.

Permeability is rapid. Available water capacity is low to medium. Runoff is rapid to very rapid. The hazard of erosion is severe if this soil is left bare.

This soil is wooded. Because of steep slopes and coarse fragments on the surface, it is not suited to cultivated crops or pasture.

CAPABILITY UNIT VIIs-7

This capability unit consists of shallow and deep, well drained and somewhat excessively drained soils on uplands. The surface layer and subsoil are loamy and clayey. Some of these soils contain shale fragments throughout the profile, and some are intermingled with Rock outcrop. Slopes are 4 to 45 percent.

Permeability is moderately slow and moderately rapid. Available water capacity is very low to medium. The hazard of erosion is severe if these soils are left bare.

Because of steep slopes and Rock outcrop these soils are not suited to cultivated crops or pasture. They are better suited to woodland.

Predicted yields

The estimated average yields per acre of the principal crops grown in Blount County are shown in table 2 for each soil. The estimates assume a high level of management and are based on records of actual yields on local farms, on yields obtained in long term experiments, and on estimates made by agricultural workers who have had experience with the crops and the soils. All estimates are based on an average amount of rainfall in the area over a long period of time without irrigation.

The management required to obtain the yields shown in table 2 are as follows:

1. Fertilizer and lime are added according to the needs indicated by soil tests.
2. Cropping systems suggested in the section describing the capability units are followed.
3. Water is used or is disposed of by contour cultivation or artificial drainage.
4. Seedbeds are well prepared and properly seeded.
5. Good crop varieties and seeding mixtures are used at proper planting rates and on suggested planting dates.
6. Diseases, insects, and undesirable plants are controlled.
7. Grazing is regulated.

Woodland[3]

Orignally Blount County was predominantly wooded. Today trees cover only approximately 60 percent of the county, or 245,700 acres (*5*).

Good stands of commercial trees can be grown in the woodlands of Blount County. Needleleaf trees dominate upland sites, and broadleaf trees generally dominate hillsides and bottom land along streams. The percentages of needleleaf trees and broadleaf trees are approximately equal.

The value of wood products is increasing, but the production of wood products is still far below its potential. Other woodland values include wildlife habitat, recreation, aesthetics, grazing, and the conservation of soil and water.

This section has been provided to help explain how soils affect tree growth and management in the county.

Woodland suitability groups

The soils of Blount County have been placed in woodland suitability groups, as shown in table 3, to assist owners in planning the use of their soils for wood crops. Each woodland suitability group is made up of soils that are suited to the same kind of trees, that need approximately the same kind of management when the vegetation on them is similar, and that have about the same potential productivity.

Each woodland suitability group is identified by a three-part symbol, such as 1w9, 4c2, or 5d3. The first part of the symbol, always a numeral, indicates relative potential productivity of the soils: 1 means very high; 2 means high; 3 means moderately high; 4 means moderate; and 5 means low. These ratings are based on field determinations of average site index. Site index

[3] W. C. AIKEN and JERRY JOHNSON, woodland conservationists, Soil Conservation Service, assisted in the preparation of this section.

TABLE 2.—*Estimated average yields per acre of principal crops grown under high level mana*

[Absence of figure indicates crop not commonly grown]

Soil	Cotton (lint)	Corn	Soybean	Oats	Tomatoes	Peaches	Watermelons	Hay
								Coastal bermudagrass
	Lbs	*Bu*	*Bu*	*Bu*	*Lbs*	*Bu*	*Tons*	*Tons*
Albertville silt loam, 2 to 6 percent slopes	800	75	30	80	15,000	275	6.0	3.5
Albertville silt loam, 6 to 10 percent slopes	750	70	25	75	14,000	250	5.5	3.0
Albertville silt loam, 10 to 15 percent slopes	600	50		70	12,000	225	5.0	2.5
Allen loam, 2 to 6 percent slopes	800	75	35	85				4.5
Allen loam, 6 to 10 percent slopes	750	70	30	80				4.0
Allen loam, 10 to 15 percent slopes	600		25	75				3.5
Allen loam, 15 to 25 percent slopes								
Barfield-Rock outcrop complex								
Bodine cherty silt loam, 6 to 15 percent slopes								
Bodine cherty silt loam, 15 to 45 percent slopes								
Crevasse loamy fine sand		50		50				3.0
Decatur loam, 2 to 6 percent slopes	850	85	35	70				4.0
Decatur loam, 6 to 10 percent slopes	800	80	30	65				3.5
Decatur silty clay loam, 4 to 15 percent slopes, eroded								
Ellisville silt loam	800	90	40	70				4.0
Ennis cherty silt loam	600	70	25	65				2.5
Fullerton cherty silt loam, 2 to 6 percent slopes	750	65	30	65				4.0
Fullerton cherty silt loam, 6 to 10 percent slopes	700	60	25	60				3.5
Fullerton cherty silt loam, 10 to 15 percent slopes	600	50	20	55				3.0
Hamblen loam	700	90	35					3.5
Hanceville loam, 2 to 6 percent slopes	900	90	35	75	15,000	250	5.5	4.5
Hanceville loam, 6 to 10 percent slopes	800	80	30	70	14,000	225	5.0	4.0
Hartsells fine sandy loam, 2 to 6 percent slopes	850	85	35	75	15,000	275	6.0	3.5
Hartsells fine sandy loam, 6 to 10 percent slopes	750	70	30	70	14,000	250	5.5	3.0
Hartsells-Hector complex, 6 to 15 percent slopes						200		
Hector-Rock outcrop complex, 2 to 10 percent slopes						150		
Hector-Rock outcrop complex, 10 to 45 percent slopes								
Leadvale silt loam, 0 to 2 percent slopes	550	75	35	65				4.5
Leadvale silt loam, 2 to 6 percent slopes	550	75	35	70				4.5
Linker fine sandy loam, 2 to 6 percent slopes	850	80	35	75	15,000	275	6.0	3.5
Linker fine sandy loam, 6 to 10 percent slopes	700	70	30	70	14,000	250	5.5	3.0
Linker fine sandy loam, 10 to 15 percent slopes					12,000	225	4.5	2.0
Linker-Hector complex, 2 to 10 percent slopes						175		
Lobelville cherty silt loam	550	60	25	60				2.5
Minvale silt loam, 2 to 6 percent slopes	800	70	35	65				4.0
Minvale silt loam, 6 to 10 percent slopes	700	65	30	60				3.5
Montevallo-Townley complex, 6 to 15 percent slopes								
Montevallo-Townley complex, 15 to 45 percent slopes								
Nectar silt loam, 2 to 6 percent slopes	800	75	30	80	15,000	275	6.0	3.5
Nectar silt loam, 6 to 10 percent slopes	750	70	25	75	14,000	250	5.5	3.0
Nectar silt loam, 10 to 15 percent slopes	600	50		70	12,000	225	5.0	2.5
Palmerdale very shaly silt loam								
Remlap silty clay loam, 2 to 6 percent slopes, eroded		50	25					2.5
Remlap silty clay loam, 6 to 10 percent slopes, eroded		45	25					2.5
Remlap silty clay loam, 10 to 15 percent slopes, eroded								
Spadra fine sandy loam	800	85	30	85				4.5
Stemley cherty loam, 2 to 6 percent slopes	600	55	25	65				4.0
Taft silt loam	450	55	25					3.5
Townley silty clay loam, 2 to 6 percent slopes	500	50	25	60				3.0
Townley silty clay loam, 6 to 15 percent slopes								
Tupelo silt loam		55	25					2.5
Wehadkee soils		55	25					
Wynnville fine sandy loam, 2 to 6 percent slopes	750	75	35	70	15,000	275	6.0	4.0

[1]Animal-unit-months (AUM) is the number of months that one animal unit can graze 1 acre without injury to the pasture. An steer, one horse, five hogs, or seven sheep.

TABLE 3.—*Potential productivity and*

Woodland suitability group, soil series, and map symbol	Potential soil productivity			
	Species	Site index	Yield per acre	
			Board feet[1]	*Cords*
Group 1o7: Deep, well drained, nearly level soils that have a loamy surface layer and subsoil; on flood plains and low stream terraces. Ellisville: Ee.	Loblolly pine	100	492	1.8
	Yellow-poplar	110	570	
	Shortleaf pine	90	457	1.8
	Sweetgum	100	430	
	Oak	90	290	.9
Group 1w9: Deep, poorly drained, nearly level soils that have a loamy surface layer and subsoil; on flood plains. Wehadkee: Wa.	Loblolly pine	100	492	1.8
	Sweetgum	100	430	
	Yellow-poplar	110	570	
	Oak	90	290	.9
Group 2o7: Deep, well-drained, commonly cherty soils that have a loamy surface layer and subsoil; on flood plains and low stream terraces. Ennis: En; Spadra: Sa.	Loblolly pine	90	367	1.5
	Yellow-poplar	100	430	
	Shortleaf pine	80	314	1.6
	Red oak	80	190	.7
Group 2w8: Deep, moderately well drained, nearly level soils, some of which are cherty, that have a loamy surface layer and subsoil; on flood plains. Hamblen: Ha; Lobelville: Lo.	Yellow-poplar	100	430	
	Loblolly pine	90	367	1.5
	Oak	80	190	.7
Group 2s5: Deep, excessively drained, nearly level soils that are sandy throughout; on flood plains. Crevasse: Cr.	Cottonwood	100	500	
	Yellow-poplar	100	430	
	Loblolly pine	90	367	1.5
	Sweetgum	90	310	
Group 3c2: Deep, well drained, gently sloping to strongly sloping soils that have a loamy surface layer and a clayey subsoil; on uplands. Remlap: ReB2, ReC2, ReD2.	Loblolly pine	80	267	1.3
	Shortleaf pine	70	210	1.4
	Virginia pine	70		
	Upland oak	70	120	.6
	Eastern redcedar	50		
Group 3r2: Deep, somewhat excessively drained, gently sloping to very steep soils that have a very shaly loamy surface layer and subsoil; on uplands. Palmerdale: Pr.	Loblolly pine	80	267	1.3
	Shortleaf pine	70	210	1.4
	Virginia pine	70		
	Sweetgum	80	210	
Group 3o7: Moderately deep and deep, moderately well drained and well drained, nearly level to moderately steep soils, some of which have a fragipan, that have a loamy surface layer and a loamy and clayey subsoil; on uplands, footslopes, and stream terraces. Albertville: AbB, AbC, AbD; Allen: AeB, AeC, AeD, AeE; Decatur: DcB, DcC, DtC2; Fullerton: FtB, FtC, FtD; Leadvale: LaA, LaB; Minvale: MnB, MnC; Nectar: NeB, NeC, NeD; Stemley: StB; Wynville: WnB.	Loblolly pine	80	267	1.3
	Yellow-poplar	90	310	
	Virginia pine	70		
	Shortleaf pine	70	210	1.4
	Upland oak	70	120	.6
	Eastern redcedar	50		
Group 3w8: Deep, somewhat poorly drained, nearly level soils, some of which have a fragipan, that have a loamy surface layer and subsoil; on stream terraces. Taft: Ta.	Yellow-poplar	90	310	
	Loblolly pine	80	267	1.3
	Shortleaf pine	70	210	1.4
	Sweetgum	80	210	
	Oak	70	120	.6
Group 4o1: Deep and moderately deep, well drained, gently sloping to strongly sloping soils that have a loamy surface layer and a loamy and clayey subsoil; on uplands. Hanceville: HcB, HcC; Hartsells: HeB, HeC, HhD; Linker: LeB, LeC, LeD, LhC; Townley: TnB, TnC. For Hector parts of HhD and LhC, see group 5d2.	Loblolly pine	70	167	1.1
	Shortleaf pine	60	127	1.1
	Virginia pine	70		
Group 4c2: Deep, somewhat poorly drained, nearly level soils that have a loamy surface layer and a clayey subsoil; on low stream terraces and in upland depressions. Tupelo: Tu.	Loblolly pine	70	167	1.1
	Shortleaf pine	60	127	1.1
	Eastern redcedar	40		

limitations in management of soils for woodland

Hazards or limitations					Species suitability	
Seedling mortality	Erosion hazard	Windthrow hazard	Plant competition	Equipment limitations	Favor in existing stands	Use for planting
Slight	Slight	Slight	Slight	Slight	Loblolly pine, yellow-poplar, black walnut, cottonwood, white oak, red oak, sweetgum, ash.	Loblolly pine, yellow-poplar, black walnut, cottonwood.
Severe	Slight	Moderate	Moderate	Severe	Loblolly pine, yellow-poplar, sweetgum, cottonwood, willow oak, water oak, red maple, ash.	Loblolly pine, yellow-poplar, sweetgum, cottonwood, cherrybark oak.
Slight	Slight	Slight	Slight	Slight	Loblolly pine, yellow-poplar, sweetgum, white oak, red oak, black walnut, cottonwood.	Loblolly pine, yellow-poplar, cottonwood, sweetgum, black walnut.
Slight	Slight	Slight	Moderate	Moderate	Yellow-poplar, loblolly pine, sweetgum, black walnut, white oak, red oak.	Yellow-poplar, loblolly pine, cottonwood, black walnut.
Moderate	Slight	Moderate	Moderate	Moderate	Cottonwood, yellow-poplar, sweetgum, loblolly pine, sycamore.	Cottonwood, loblolly pine, yellow-poplar, sweetgum.
Moderate	Slight	Slight	Slight	Moderate	Loblolly pine, shortleaf pine, Virginia pine, white oak, eastern redcedar.	Loblolly pine, shortleaf pine.
Slight	Severe	Slight	Slight	Severe	Loblolly pine, shortleaf pine, Virginia pine.	Loblolly pine, shortleaf pine.
Slight	Slight	Slight	Slight	Slight	Loblolly pine, yellow-poplar, shortleaf pine, Virginia pine, black walnut, white oak, red oak.	Loblolly pine, yellow-poplar, black walnut, Virginia pine, shortleaf pine, eastern redcedar.
Slight	Slight	Moderate	Moderate	Moderate	Yellow-poplar, loblolly pine, sweetgum, white oak.	Loblolly pine.
Slight	Slight	Slight	Slight	Slight	Loblolly pine, shortleaf pine, Virginia pine, yellow-poplar, eastern redcedar.	Loblolly pine, Virginia pine, shortleaf pine.
Moderate	Slight	Slight	Moderate	Moderate	Loblolly pine, eastern redcedar, shortleaf pine, bottomland oak.	Loblolly pine, eastern redcedar.

TABLE 3.—*Potential productivity and*

Woodland suitability group, soil series, and map symbol	Potential soil productivity			
	Species	Site index	Yield per acre	
			Board feet[1]	*Cords*
Group 4d3: Shallow and moderately deep, well drained to excessively drained, gently sloping to very steep soils that have a loamy, shaly loamy, and clayey surface layer and a shaly loamy and clayey subsoil; on uplands. Barfield: Bc; Montevallo: MtD. For Townley part of MtD, see group 4o1.	Loblolly pine	70	167	1.1
	Shortleaf pine	60	120	1.1
	Virginia pine	60		
	Eastern redcedar	40		
Group 4f2: Deep, well drained or excessively drained, sloping to strongly sloping cherty soils that have a loamy surface layer and subsoil; on uplands. Bodine: BdC.	Shortleaf pine	60	127	1.1
	Yellow-poplar	90	210	
	Upland oak	70	70	.4
Group 4f3: Deep, well drained or excessively drained steep to very steep cherty soils that have a loamy surface layer and subsoil; on uplands. Bodine: BdF.	Virginia pine	60		
	Upland oak	60	70	.4
Group 5d2: Shallow, well drained, gently sloping to very steep soils that have a loamy surface layer and subsoil; on uplands. Hector: HrC, HrF.	Shortleaf pine	50	53	.9
	Eastern redcedar	30		
Group 5d3: Shallow, well drained, steep to very steep shaly soils that are loamy throughout; on uplands. Montevallo: MtF. For Townley part, see group 4o1.	Loblolly pine	60	83	.9
	Shortleaf pine	50	53	.9
	Virginia pine	50		

[1]Doyle rule.

is the height, in feet, that the dominant trees of a given species, on a specific kind of soil, reach in a natural, unmanaged stand in a stated number of years. For commercial hardwoods and softwoods in this county, the site index is the height reached in 50 years, except for cottonwood, for which the index is the height reached in 30 years.

The five foregoing ratings are based on field determination of average site index of an indicator forest type or species. Site indexes are grouped into site quality classes, and the classes are used to arrive at approximate expected yields per acre in cords and board feet. For this survey, conversions of average site index into volumetric growth and yield are based on research on loblolly and shortleaf pines (*8*), cottonwood (*4*), (*6*), oaks (*7*), and southern hardwoods (*10*).

The second part of the symbol, a small letter, indicates an important soil property that imposes a slight to severe hazard of limitation in managing the soils for wood crops. The letter *c* means that the main limitation is the kind or amount of clay in the upper part of the soil; *f* means that the soil has a large amount of coarse fragments; *o* means that the soils have few limitations or restrictions for woodland use or management; *d* means that the rooting depth is restricted; *r* means that the soils have steep slopes; *s* means that the soils are sandy and dry, that there is little or no difference in texture between the surface layer and subsoil (or B horizon), that the available water capacity is low, and that the supply of plant nutrients is generally low; *w* means that excessive water in or on the soil is the chief limitation; *x* means that the main limitation is stoniness or rockiness.

The third element of the symbol indicates degree of hazard or limitation and general suitability of the soils for certain kinds of trees.

The numeral 1 indicates soils that have no or only slight limitations and are best suited to needleleaf trees; 2 indicates soils that have one or more moderate limitations and are best suited to needleleaf trees; and 3 indicates soils that have one or more severe limitations and are best suited to needleleaf trees. The numeral 4 indicates soils that have no or only slight limitations and are best suited to broadleaf trees; 5 indicates soils that have one or more moderate limitations and are best suited to broadleaf trees; and 6 indicates soils that have one or more severe limitations and are best suited to broadleaf trees. The numeral 7 indicates soils that have no or only slight limitations and are suited to either needleleaf or broadleaf trees; 8 indicates soils that have one or more moderate limitations and are suited to either needleleaf or broadleaf trees; 9 indicates soils that have one or more severe limitations and are suited to either needleleaf or broadleaf trees. The numeral 0 indicates that the soils are not suitable for producing timber commercially.

The hazards or limitations that affect management

limitations in management of soils for woodland—Continued

Hazards or limitations					Species suitability	
Seedling mortality	Erosion hazard	Windthrow hazard	Plant competition	Equipment limitations	Favor in existing stands	Use for planting
Severe	Moderate	Moderate	Slight	Slight to moderate.	Loblolly pine, shortleaf pine, Virginia pine, eastern redcedar.	Loblolly pine, shortleaf pine, Virginia pine, white pine, eastern redcedar.
Slight	Slight	Slight	Slight	Moderate	Shortleaf pine, loblolly pine, Virginia pine, eastern redcedar.	Loblolly pine, shortleaf pine.
Moderate	Severe	Slight	Slight	Severe	Shortleaf pine, loblolly pine, Virginia pine, eastern redcedar.	Virginia pine, eastern redcedar.
Severe	Moderate to severe.	Moderate	Slight	Moderate to severe.	Shortleaf pine, loblolly pine, Virginia pine, eastern redcedar.	Shortleaf pine, loblolly pine, eastern redcedar.
Severe	Severe	Moderate	Slight	Severe	Loblolly pine, shortleaf pine, Virginia pine.	Loblolly pine, Virginia pine.

of soils for woodland are seedling mortality, erosion hazard, windthrow hazard, plant competition, and equipment limitations.

To facilitate management, the soils of Blount County have been rated for these hazards or limitations in table 3. These ratings are always slight, moderate, or severe. The following explanations of these ratings apply to the descriptions of all woodland suitability groups in Blount County.

Seedling mortality ratings indicate the degree of expected mortality of planted seedlings when plant competition is not a limiting factor. Considered in the ratings are depth to the water table, hazard of flooding, drainage, soil depth and structure, and degree of erosion. Normal rainfall, good planting stock, and proper planting are assumed. A rating of *slight* indicates expected mortality is less than 25 percent; *moderate* indicates a 25 to 50 percent loss; and *severe* indicates more than 50 percent loss of seedlings. Special preparation of the site is needed before planting for soils rated severe and for most soils rated moderate.

Erosion hazard measures the risk of soil losses in well managed woodlands. The hazard of erosion is *slight* if expected soil losses are small; *moderate* if some soil losses are expected and care is needed during logging and construction to reduce soil losses; and *severe* if special methods of operation are needed to prevent excessive soil losses. In Blount County only the steep soils have a severe hazard of erosion.

Windthrow hazard measures the effect of the soils on root development and the ability of the soil to hold trees firmly. The hazard is *slight* if the effective rooting zone is more than 20 inches deep and trees withstand most wind; *moderate* if the effective rooting zone is 10 to 20 inches deep and some trees are blown down during periods of excessive soil wetness and strong wind; and *severe* if the effective rooting zone is 10 inches or less deep and trees will not stand alone in strong wind.

Plant competition is rated on the basis of the degree to which unwanted plants invade openings in the tree canopy. Considered in the ratings are available moisture capacity, fertility, drainage, and degree of erosion. A rating of *slight* means that competition from other plants is not a problem; *moderate* means that plant competition delays development of fully stocked stands of desirable trees; and *severe* means that plant competition prevents establishment of a desirable stand unless intensive site preparation and such practices as weeding are used to control undesirable plants.

Equipment limitations reflect the soil characteristics that restrict or prohibit the use of equipment normally used in woodland management or harvesting. In Blount County soil characteristics that have the most limiting effect are drainage, depth to the seasonal high water table, slope, and texture of the surface layer. *Slight* means there is no restriction in the kind of equipment or in the time of year it is used; *moderate* means that

use of equipment is restricted for less than 3 months of the year; and *severe* means that special equipment is needed and its use is restricted for more than 3 months of the year.

In table 3 the soils are placed in woodland suitability groups, management limitations that are based on soils are given, and some of the preferred timber species and their average site indexes are shown.

Wildlife[4]

The wildlife population of any area depends on the availability of food, cover, and water in suitable combinations. Habitat is retained or created and maintained by establishing desirable vegetation and by developing water supplies in suitable places.

In table 4 the soils of Blount County are rated for producing the elements of wildlife habitat and three kinds of wildlife. The ratings refer to only the suitability of the soil. They do not take into account present land use or the distribution and density of wildlife and human populations. The suitability of individual sites must be determined by on-site inspection.

The soils are rated according to their suitability for producing the elements of wildlife habitat. A rating of *good* means that habitat is easily improved, maintained, or created. Few or no soil limitations affect habitat management, and satisfactory results are expected. *Fair* means that habitat can be improved, maintained, or created. Moderate soil limitations affect habitat management or development, and moderate intensity of management and fairly frequent attention may be required for satisfactory results. *Poor* means that limitations for the element of habitat and the designated kind of habitat are severe. Habitat can be created, improved, or maintained in most places, but management is difficult and requires intensive effort. Results are questionable. *Very poor* means that under prevailing soil conditions, it is impractical to attempt to improve, maintain, or create habitat. Unsatisfactory results are probable.

Grain and seed crops are domestic grain or other seed-producing annuals that are commonly planted to produce food for wildlife. Examples are corn, sorghum, wheat, oats, barley, millet, cowpeas, soybeans, and sunflower.

Domestic grasses and legumes are perennial grasses and herbaceous legumes that are commonly planted to produce food or cover, or both, for wildlife. Examples are fescue, lovegrass, orchardgrass, clover, and vetch.

Wild herbaceous plants are native or naturally established dryland herbaceous grasses and forbs, including weeds, that provide either food or cover, or both, for wildlife. Examples are goldenrod, beggarweed milkpea, ragweed, partridgepea, pokeweed, croton, fescue, and grama.

Hardwood trees include nonconiferous trees and associated woody understory plants that provide wildlife cover or that produce nuts, buds, catkins, twigs, bark, or foliage used as food by wildlife.

Coniferous plants are cone-bearing trees, shrubs, or ground cover that furnish wildlife cover or supply food in the form of browse, seeds, or fruit-like cones. These plants are commonly established through natural processes, but they may be planted or transplanted. Examples are pine, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged and floating aquatic plants are not included. These plants provide food and cover for wetland wildlife. Typical examples are smartweed, wild millet, rushes, sedges, reeds, wild rice, cutgrass, cordgrass, and cattails.

Shallow water areas are areas of surface water that are useful to wildlife and are generally not more than 5 feet deep. They may be natural wet areas, or they may be created by dams, levees, or water-control devices in marshes or streams. Examples are muskrat marshes, waterfowl feeding areas, wildlife watering developments, wildlife ponds, and beaver ponds.

In table 4 each soil is also rated according to its suitability as habitat for the three kinds of wildlife in the county: open-land, woodland, and wetland.

Open-land wildlife consists of birds and mammals that normally live in croplands, pastures, meadows, lawns, and areas where grasses, herbs, shrubs, and vines grow. Bobwhite quail, meadowlarks, field sparrows, killdeer, cottontail rabbits, mourning doves, and red fox are typical examples of open-land wildlife.

Woodland wildlife consists of birds and mammals that normally live in areas of hardwood trees, coniferous trees, and shrubs. Wild turkey, woodcocks, thrushes, vireos, woodpeckers, squirrels, gray fox, raccoons, and white-tailed deer are typical examples of woodland wildlife.

Wetland wildlife consists of birds and mammals that normally live in swampy, marshy, or open-water areas. Ducks, geese, herons, shore birds, rails, kingfishers, muskrat, mink, beaver, and otters and typical examples of wetland wildlife.

Engineering Uses of the Soils[5]

This section is useful to those who need information about soils used as structural material or as a foundation upon which structures are built. Among those who can benefit from this section are planning commissions, town and city managers, land developers, engineers, contractors, and farmers.

Among properties of soils highly important in engineering are permeability, strength, compaction characteristics, soil drainage condition, shrink-swell potential, grain size, plasticity, and soil reaction. Also important are depth to the water table, depth to bedrock, and slope. These properties, in various degrees and combinations, affect construction and maintenance of roads, airports, pipelines, foundations for small build-

[4] ROBERT E. WATERS, biologist, Soil Conservation Service, assisted in the preparation of this section.

[5] JESSE C. BUSH, civil engineer, Soil Conservation Service, assisted in the preparation of this section.

TABLE 4.—*Suitability of soils for elements of wildlife habitat and kinds of wildlife*

Soil series and map symbols	Elements of wildlife habitat—							
	Grain and seed crops	Domestic grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Open-la
Albertville:								
AbB	Good	Good	Good	Good	Good	Poor	Very poor	Good
AbC, AbD	Fair	Good	Good	Good	Good	Very poor	Very poor	Good
Allen:								
AeB	Good	Good	Good	Good	Good	Poor	Very poor	Good
AeC, AeD	Fair	Good	Good	Good	Good	Very poor	Very poor	Good
AeE	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair
Barfield: Bc	Very poor	Very poor	Very poor	Poor	Poor	Very poor	Very poor	Poor
Bodine:								
BdC	Poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor
BdF	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor
Crevasse: Cr	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair
Decatur:								
DcB	Good	Good	Good	Good	Good	Poor	Very poor	Good
DcC, DtC2	Fair	Good	Good	Good	Good	Very poor	Very poor	Good
Ellisville: Ee	Good	Good	Good	Good	Good	Fair	Fair	Good
Ennis: En	Good	Good	Good	Good	Good	Poor	Poor	Good
Fullerton:								
FtB	Good	Good	Good	Good	Good	Poor	Very poor	Good
FtC, FtD	Fair	Good	Good	Good	Good	Very poor	Very poor	Good
Hamblen: Ha	Good	Good	Good	Good	Good	Poor	Poor	Good
Hanceville:								
HcB	Good	Good	Good	Good	Good	Poor	Poor	Good
HcC	Fair	Good	Good	Good	Good	Very poor	Very poor	Good
Hartsells:								
HeB	Good	Good	Good	Good	Good	Poor	Very poor	Good
HeC, HhD	Fair	Good	Good	Good	Good	Very poor	Very poor	Good
Hector: HrC, HrF	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Poor
Leadvale:								
LaA	Good	Good	Good	Good	Good	Poor	Poor	Good
LaB	Good	Good	Good	Good	Good	Poor	Very poor	Good
Linker:								
LeB	Good	Good	Good	Good	Good	Poor	Very poor	Good
LeC, LeD, LhC	Fair	Good	Good	Good	Good	Very poor	Very poor	Good
Lobelville: Lo	Fair	Good	Good	Good	Good	Poor	Poor	Fair
Minvale:								
MnB	Good	Good	Good	Good	Good	Poor	Very poor	Good
MnC	Fair	Good	Good	Good	Good	Very poor	Very poor	Good

TABLE 4.—*Suitability of soils for elements of wildlife habitat and kinds of wildlife* — Co

Soil series and map symbols	Elements of wildlife habitat—							
	Grain and seed crops	Domestic grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Open-lan
Montevallo:								
MtD	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor
MtF	Very poor	Very poor	Fair	Poor	Poor	Very poor	Very poor	Poor
Nectar:								
NeB	Good	Good	Good	Good	Good	Poor	Very poor	Good
NeC, NeD	Fair	Good	Good	Good	Good	Very poor	Very poor	Good
Palmerdale: Pr	Very poor	Poor	Poor	Fair	Fair	Very poor	Very poor	Poor
Remlap:								
ReB2	Good	Good	Good	Good	Good	Poor	Very poor	Good
ReC2, ReD2	Fair	Good	Good	Good	Good	Good	Very poor	Good
Spadra: Sa	Good	Good	Good	Good	Good	Poor	Very poor	Good
Stemley: StB	Good	Good	Good	Good	Good	Poor	Poor	Good
Taft: Ta	Fair	Good	Good	Good	Good	Fair	Fair	Good
Townley:								
TnB	Fair	Good	Good	Good	Good	Poor	Very poor	Good
TnC	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair
Tupelo: Tu	Fair	Fair	Good	Good	Good	Fair	Fair	Fair
Wehadkee: Wa	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair
Wynnville: WnB	Good	Good	Good	Good	Good	Poor	Very poor	Good

ings, irrigation systems, ponds and small dams, and systems for disposal of sewage and refuse.

Information in this section of the survey can be helpful to those who—

1. Select potential residential, industrial, commercial, and recreational areas;
2. Evaluate alternate routes for roads, highways, pipelines, and underground cables;
3. Seek sources of gravel, sand, or clay;
4. Plan farm drainage systems, irrigation systems, ponds, terraces, and other structures for controlling water and conserving soil;
5. Correlate performance of engineering structures with properties of the kinds of soil on which they are built, for the purpose of predicting performance of structures on the same or similar kinds of soil in other locations;
6. Determine the suitability of soils for cross-country movement of vehicles and construction equipment; and
7. Develop preliminary estimates for construction purposes pertinent to the particular area.

Most of the information in this section is presented in tables 5, 6, and 7, which show, respectively, several estimates of soil properties significant to engineering, interpretations for various engineering uses, and results of engineering laboratory tests on soil samples.

This information, along with the soil map and other parts of this survey, can be used to make interpretations in addition to those given in tables 6, 8, and 9, and it also can be used to make other useful maps.

This information, however, does not eliminate the need for further investigation at the site selected for engineering work involving heavy loads or excavations to depths greater than those reported, generally 6 feet. Also, inspection of sites, especially small ones, is needed because many delineated areas of a given soil mapping unit may contain small areas of other kinds of soil that have strongly contrasting properties and different suitabilities or limitations for soil engineering.

Some of the terms used in this soil survey have different meanings in soil science than in engineering. Many of these terms commonly used in soil science are defined in the Glossary as used in soil science.

Engineering soil classification systems

The two systems most commonly used in classifying soils for engineering are the Unified system, used by SCS engineers, the Department of Defense, and others, and the AASHTO system adopted by the American Association of State Highway and Transportation Officials.

In the Unified system (*3*) soils are classified according to particle size distribution, plasticity, liquid limit, and organic matter. Soils are grouped in 15 classes: eight classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; six classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and one class of highly organic soils, identified as Pt. Soils on the borderline between two classes are designated by symbols for both classes, for example, CL-ML.

The AASHTO (*2*) system is used to classify soils according to those properties that affect use in highway construction and maintenance. In this system, a soil is placed in one of seven basic groups ranging from A-1 to A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Gravelly soils of high bearing strength, or the best soils for subgrade (foundation), are in group A-1. Clay soils that have low strength when they are wet and that are the poorest soils for subgrade are at the other extreme and are in group A-7. When laboratory data are available to justify a further breakdown, the A-1, A-2, and A-7 groups are divided as follows: A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, and A-7-6. As additional refinement, the engineering value of a soil material can be indicated by a group index number. Group indexes range from 0 for the best material to 20 or more for the poorest. The AASHTO classification for tested soils in Blount County with group index numbers in parentheses, is shown in table 7; the estimated classification, without group index numbers, is given in table 5 for all soils in the survey area.

Soil properties significant to engineering

Estimates of several soil properties significant in engineering are given in table 5. These estimates are made for typical soil profiles, by layers sufficiently different to have different significance for soil engineering. The estimates are based on field observations made in the course of mapping, on test data for these and similar soils, and on experience with the same kinds of soil in other counties. Following are explanations of some of the columns in table 5.

Depth to bedrock is distance from the surface of the soil to the upper surface of the rock layer.

Depth to seasonal high water table is distance from the surface of the soil to the highest level that ground water reaches in the soil in most years.

Soil texture is described in table 5 in the standard terms used by the United States Department of Agriculture (USDA). These terms take into account relative percentages of sand, silt, and clay in soil material smaller than 2 millimeters in diameter. Loam, for example, is soil material that contains 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the soil contains gravel or other particles coarser than sand, an appropriate modifier is added, for example, gravelly loamy sand.

Liquid limit and plasticity index indicate the effect of water on the strength and consistence of soil material. As the moisture content of a clayey soil is increased from a dry state, the material changes from a semisolid to a plastic state. If the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material changes from the semisolid to plastic state; and the liquid limit, from a plastic to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which a soil material is plastic. Liquid limit and plasticity index are estimated in table 5, but in table 7

the data on liquid limit and plasticity index are based on tests of soil samples.

Permeability is the quality of a soil that enables it to transmit water or air. It is estimated on the basis of soil characteristics observed in the field, particularly structure and texture. The estimates in table 5 do not take into account lateral seepage of such transient soil features as plowpans and surface crusts.

Available water capacity is the ability of soils to hold water for use by most plants. It is commonly defined as the difference between the amount of soil water at field capacity and the amount at the wilting point of most crop plants.

Reaction is the degree of acidity or alkalinity of a soil, expressed in pH values. The pH value and terms used to describe soil reaction are defined in the Glossary.

Shrink-swell potential is the relative change in volume to be expected of soil material with change in moisture content, that is, the extent to which the soil shrinks as it dries out or swells as it gets wet. Extent of shrinking and swelling is influenced by the amount and kind of clay in the soil. Shrinking and swelling of soils causes considerable damage to building foundations, roads, and other structures. A high shrink-swell potential indicates a hazard to maintenance of structures built in, on, or of material having this rating.

Corrosivity, as used in table 5, pertains to potential soil induced chemical action that dissolves or weakens uncoated steel or concrete. Rate of corrosion of uncoated steel is related to soil properties such as drainage, texture, total acidity, and electrical conductivity of the soil material. Corrosivity for concrete is influenced mainly by the content of sodium or magnesium sulfate, but also by soil texture and acidity. Installations of uncoated steel that intersect soil boundaries or soil horizons are more susceptible to corrosion than installations entirely in one kind of soil or in one soil horizon. A corrosivity rating of *low* means that there is a low probability of soil-induced corrosion damage. A rating of *high* means that there is a high probability of damage, so that protective measures for steel or more resistant concrete should be used to avoid or minimize damage.

Engineering interpretations of the soils

The estimated interpretations in table 6 are based on the engineering properties of soils shown in table 5, on test data for soils in this survey area and others nearby or adjoining, and on the experience of engineers and soil scientists with the soils of Blount County. In table 6, ratings are used to summarize limitation or suitability of the soils for listed purposes other than for drainage for crops and pasture, irrigation, terraces and diversions, and grassed waterways. For these particular uses, table 6 lists features that affect planning, installation, and maintenance.

Following are explanations of the columns in table 6.

Pond reservoir areas hold water behind a dam or embankment (fig. 9). Soils suitable for pond reservoir

Figure 9.—Farm pond built on Albertville silt loam, 2 to 6 percent slopes. Fescue grass is in foreground.

areas have low seepage, which is related to their permeability and depth to fractured or permeable bedrock or other permeable material.

Embankments, dikes, and levees require soil material resistant to seepage and piping and of favorable stability, shrink-swell potential, shear strength, and compactibility. Presence of stones or organic material in a soil are among factors that are unfavorable.

An aquifer-fed excavated pond is a body of water created by excavating a pit or dugout into a groundwater aquifer. Excluded are ponds that are fed by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Ratings in table 6 are for ponds that are properly designed, located, and constructed. Soil properties and site features that affect aquifer-fed ponds are depth to a permanent water table, permeability of the aquifer, quality of the water, and ease of excavation.

Drainage for crops and pasture is affected by such soil properties as permeability, texture, and structure; depth to claypan, rock, or other layers that influence rate of water movement; depth to water table; slope; stability in ditchbanks; susceptibility to stream overflow; salinity or alkalinity; and availability of outlets for drainage.

Irrigation of a soil is affected by such features as slope, susceptibility to stream overflow, water erosion, or soil blowing; soil texture; content of stones; accumulations of salts and alkali; depth of root zone; rate of water intake at the surface; permeability in soil layers below the surface layer and in fragipans or other layers that restrict movement of water; amount of water held available to plants; and need for drainage, or depth to water table or bedrock.

Terraces and diversions are embankments, or ridges, constructed across the slope to intercept runoff so that it soaks into the soil or flows slowly to a prepared outlet. Features that affect suitability of a soil for terraces are uniformity and steepness of slope, depth to bedrock or other unfavorable material, presence of stones, permeability, and resistance to water erosion, soil slipping, and soil blowing. A soil suitable for these structures provides outlets for runoff and is not difficult to vegetate.

Grassed waterways are natural or constructed waterways, typically broad and shallow and covered by grass for protection against erosion. They are used to conduct surface water away from cultivated areas. Features that affect suitability of a soil for grassed waterways are slope, root zone, rock outcrop, ability of soil to hold water available for plants, permeability, and hazard of erosion.

Engineering test data

Table 7 contains engineering test data for some of the major soil series in Blount County. These tests were made to help evaluate the soils for engineering purposes. The engineering classifications given are based on data obtained by mechanical analysis and by tests to determine liquid limits and plastic limits. The mechanical analyses were made by combined sieve and hydrometer methods.

Compaction, or moisture-density, data are important in earthwork. If a soil material is compacted at successively higher moisture content, assuming that the compactive effort remains constant, the density of the compacted material increases until the *optimum moisture content* is reached. After that, density decreases as moisture content increases. The highest dry density obtained in the compactive test is termed *maximum dry density.*

Tests to determine liquid limit and plastic limit measure the effect of water on the consistence of soil material, as has been explained for table 5.

Town and Country Planning

Blount County is near Birmingham and is readily accessible by major highways. Population is steadily expanding into areas formerly used for farming. Along with this expansion is an increasing demand for housing, shopping centers, schools, parks, and other developments.

This section was prepared mainly for planners, builders, landscape architects, zoning officials, present and potential landowners, and others interested in the use of soils for purposes other than farming.

The suitability of the soils must be determined in selecting a site for a residence, a highway, an industry, a recreational area, or any other nonfarm purpose. Among important properties considered are texture, reaction, depth, shrink-swell potential, slope, permeability, depth to hard rock, depth to the water table, and the hazard of flooding.

Table 8 and 9 give the degree and kind of limitations or suitability of the soils of Blount County for selected nonfarm uses. The degrees of limitation or suitability reflect the features of the given soil, to a depth of about 6 feet or to a contact that affects a particular use.

Soil limitations are indicated by the ratings of slight, moderate, and severe. *Slight* means soil properties are generally favorable for the rated use; that is, limitations are minor and are easily overcome. *Moderate* means that some soil properties are unfavorable but can be overcome or modified by special planning and design. *Severe* means soil properties are so unfavorable and so difficult to correct or overcome that major soil reclamation, special design, or intensive maintenance is required.

Soil suitability is rated by the terms *good, fair,* and *poor,* which have, respectively, meanings approximately parallel to the terms slight, moderate, and severe. In addition, the term *unsuited* is used for soils that have no potential as a source of sand or gravel.

The detailed soil map and information in tables 8 and 9 are guides for evaluating areas for the specified uses. They do not eliminate the need for detailed onsite investigations before a final determination is made.

Following are explanations of the columns in table 8.

Septic tank absorption fields are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into natural soil. The soil material between depths of 18 inches and 6 feet is evaluated. Soil

TABLE 5.—*Estimates of soil*

[An asterisk in the first column indicates that at least one mapping unit in this series is made up of two or more kinds of soil. The instructions for referring to other series that appear in the first column

Soil series and map symbols	Depth to—		Depth from surface	USDA texture	Classification	
	Bedrock	Seasonal high water table			Unified	AASHTO
	Feet	*Feet*	*Inches*			
Albertville: AbB, AbC, AbD	>5	>5	0–6	Silt loam	ML, CL–ML	A–4
			6–15	Silty clay loam	CL	A–6
			15–47	Silty clay	MH, ML, CL, CH	A–7
			47–66	Soft shale.		
Allen: AeB, AeC, AeD, AeE	>6	>7	0–7	Loam	CL–ML, SM, ML, SM–SC	A–4
			7–50	Loam	CL, ML, CL–ML, SM–SC, SM, SC	A–4
			50–70	Sandy loam	SM, SC, SM–SC, CL, CL–ML	A–4
			70–88	Sandy clay loam	SC, CL, SM–SC, CL–ML	A–4, A–6
Barfield: Bc	0.5–1.5	>1.5	0–4	Silty clay	CL	A–6, A–7
			4–14	Clay	CH, MH	A–7
Bodine: BdC, BdF	>5	>5	0–9	Cherty silt loam	ML, CL, SM, SC, CL–ML, SM–SC	A–4
			9–14	Cherty clay loam	SC, GC, SM–SC, GM–GC	A–2, A–1
			14–22	Cherty loam	CL–ML, ML, SC, GM	A–2
			22–84	Very cherty clay loam	GM, SC	A–2
Crevasse: Cr	>5	>3	0–9	Loamy fine sand	ML, SM	A–4
			9–60	Loamy sand	SM	A–2
			60–84	Sand	SM, SP–SM	A–2, A–3
Decatur: DcB, DcC, DtC2	>6	>7	0–6	Loam	CL–ML, CL	A–4, A–6
			6–84	Clay	ML, MH	A–7
Ellisville: Ee	>6	>4	0–6	Silt loam	SC, SM SC, CL, CL–ML	A–4, A 6
			6–53	Silt loam	CL	A–4, A–6
			53–65	Loamy sand	SM	A–2
Ennis: En	>5	>3	0–60	Cherty silt loam	SC, SM–SC, CL, CL–ML	A–4, A–6
Fullerton: FtB, FtC, FtD	>6	>7	0–11	Cherty silt loam	GC, CL, CL–ML, SC, SM–SC, GM–GC	A–2, A–4
			11–84	Cherty clay	ML, CL, GM, GC, SM, SC	A–2, A–6
Hamblen: Ha	>5	1–2.5	0–40	Loam	CL–ML, ML, CL	A–4, A–6
			40–65	Loam	CL–ML, ML, CL	A–4, A–6
Hanceville: HcB, HcC	>5	>5	0–8	Loam	CL, CL–ML	A–4
			8–17	Clay loam	CL	A–6, A–7
			17–54	Clay	CL	A–6, A–7
			54–63	Clay loam	ML, CL ML	A–4, A–6, A–7
*Hartsells: HeB, HeC, HhD. For Hector part of HhD, see Hector series.	1.5–3.5	>4	0–6	Fine sandy loam	ML, CL, SM, SC, CL–ML, SM–SC	A–2, A–4
			6–38	Loam	CL, ML, CL–ML, SC, SM, SM–SC	A–4, A–6
			38–40	Soft sandstone.		
Hector: HrC, HrF	0.5–1.5	>4	0–7	Fine sandy loam	SM, SC, ML, CL, SM–SC, CL–ML	A–2, A–4
			7–15	Sandy loam	SM, SC, ML, CL, SM–SC, CL–ML	A–2, A–4

properties significant in engineering

soils in such mapping units may have different properties and limitations, and for this reason it is necessary to follow carefully the of this table. The symbol > means more than; < means less than]

Percentage less than 3 inches passing sieve—				Liquid limit	Plasticity index	Permeability	Available water capacity	Reaction	Shrink-swell potential	Corrosivity to—	
No. 4 (4.7 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)							Uncoated steel	Concrete
				Percent		*Inches per hour*	*Inches per inch of soil*	*pH*			
95–100	95–100	80–95	60–75	20–25	3–7	0.6–2.0	0.10–0.15	4.5–5.5	Low	Moderate	Moderate.
95–100	95–100	80–95	60–90	30–40	11–16	0.6–2.0	0.10–0.15	4.5–5.5	Low	Moderate	High.
95–100	95–100	85–100	70–90	40–60	14–28	0.2–0.6	0.09–0.13	4.5–5.5	Moderate	Moderate	High.
95–100	90–100	75–100	40–75	15–25	2–6	0.6–2.0	0.14–0.19	4.5–5.5	Low	Low	High.
95–100	90–100	75–100	35–75	15–30	2–10	0.6–2.0	0.12 0.18	4.5 5.5	Low	Low	High.
95 100	90–100	75–100	35–75	15–30	2 -10	0.6–2.0	0.12–0.18	4.5–5.5	Low	Low	High.
92–100	90–100	75–100	35–80	15–35	4–15	0.6–2.0	0.12–0.18	4.5–5.5	Low	Low	High.
95–100	85–95	80–90	70–85	30–50	12–25	0.2–0.6	0.14–0.17	6.1–7.8	Moderate	High	Low.
80–100	75–90	70–85	65–80	51–70	30–55	0.2–0.6	0.10–0.14	6.1–7.8	High	High	Low.
50–90	40–80	35–70	30–60	<35	<10	6.0–20	0.07–0.12	4.5–5.5	Low	Low	High.
15–60	8–50	5–40	5–35	25–45	5–20	6.0–20	0.05–0.10	4.5–5.5	Low	Low	High.
15–60	8–50	5–40	5–35	25–45	5–20	6.0–20	0.05–0.10	4.5–5.5	Low	Low	High.
15–65	8–50	5–40	5–35	25–45	5–20	6.0–20	0.05–0.10	4.5–5.5	Low	Low	High.
100	95–100	90–95	40–60		[1]NP	6.0–20	0.02–0.08	5.6–7.3	Low	Low	Moderate.
100	95–100	50–75	15–30		NP	6.0–20	0.02–0.08	5.6–7.3	Low	Low	Moderate.
100	95–100	50–70	5–15		NP	6.0–20	0.02–0.08	5.6–7.3	Low	Low	Moderate.
98–100	98–100	80–98	65–80	20–32	4–12	0.6–2.0	0.13 0.18	5.1–6.5	Low	High	Moderate.
98–100	98–100	85–99	75–95	40–60	10–25	0.6–2.0	0.13–0.18	4.5–6.0	Moderate	High	Moderate.
100	100	80–100	40–100	18–38	4–15	0.6–2.0	0.12–0.22	5.1–6.0	Low	Moderate	Moderate.
100	100	80–100	65–100	23–38	8–15	0.6–2.0	0.14–0.22	5.1–6.0	Low	Moderate	Moderate.
100	100	80–100	15–30		NP	2.0–6.0	0.05–0.22	5.1–6.0	Low	Moderate	Moderate.
55–85	50–85	40–80	35–70	15–30	5–15	2.0–6.0	0.10–0.15	4.5–6.0	Low	Low	Moderate.
60–90	50–75	40–75	30–65	20–30	5–10	0.6–2.0	0.10–0.11	4.5–5.5	Low	High	High.
60–90	50–75	45–75	40–70	35–50	10–25	0.6–2.0	0.10–0.15	4.5–5.5	Low	High	High.
90–100	90–100	85–98	60–85	22–38	1–12	0.6–2.0	0.18–0.20	5.1–6.0	Low	Moderate	Moderate.
90–100	90–100	85–98	60–85	22–38	1–12	0.6–2.0	0.10–0.18	5.1–6.0	Low	Moderate	Moderate.
95–100	90–100	75–90	50–80	25	4–10	0.6 -2.0	0.13 0.18	4.5 -6.5	Low	High	Moderate.
95 -100	95–100	85–95	50–95	30–50	11 -25	0.6–2.0	0.14–0.18	4.5–5.5	Moderate	High	High.
95 100	95–100	90–100	50–95	30–50	11 25	0.6–2.0	0.14–0.18	4.5–5.5	Moderate	High	High.
95–100	95–100	85–95	50–80	30–50	5–20	0.6–2.0	0.14–0.18	4.5–5.5	Moderate	High	High.
85–100	75–100	70–95	35–75	20	NP–8	2.0–6.0	0.12–0.18	4.5–5.5	Low	Low	High.
85–100	75–100	60–100	40–75	35	3–20	0.6–2.0	0.13–0.18	4.5–5.5	Low	Low	High.
70–95	55 90	50–80	35–65	20	NP–10	2.0–6.0	0.08–0.12	4.5–6.5	Low	Low	Moderate.
70–95	55–90	50–80	35–65	20	NP–10	2.0–6.0	0.10–0.15	4.5–6.5	Low	Low	Moderate.

TABLE 5.—*Estimates of soil*

Soil series and map symbols	Depth to—		Depth from surface	USDA texture	Classification	
	Bedrock	Seasonal high water table			Unified	AASHTO
	Feet	*Feet*	*Inches*			
Leadvale: LaA, LaB	>4	1.5–3.0	0–6	Silt loam	ML, CL, CL–ML	A–4
			6–24	Silt loam	ML, CL, CL–ML	A–4
			24–60	Silty clay loam	CL, ML	A–6, A–7
*Linker: LeB, LeC, LeD, LhC. For Hector part of LhC, see Hector series.	1.5–3.5	>4	0–7	Fine sandy loam	SC, SM, CL, ML, CL–ML, SM–SC	A–4
			7–32	Loam	CL, SC, SM–SC, CL–ML	A–4, A–6
			32–38	Sandy clay loam	CL, SC	A–6
Lobelville: Lo	>5	2.5	0–8	Cherty silt loam	CL–ML, ML	A–4
			8–27	Cherty loam	ML, CL, CL–ML	A–4
			27–50	Cherty silt loam	ML, CL, CL–ML	A–4
			50–60	Cherty loam	ML, CL, CL–ML, GM, GC, GM–GC, SM–SC, SM, SC	A–4, A–2
Minvale: MnB, MnC	>6	>5	0–13	Silt loam	CL, CL–ML	A–4
			13–47	Cherty silt loam	CL, CL–ML	A–4, A–6
			47–55	Cherty silty clay loam	CL, CL–ML	A–4, A–6
			55–80	Clay	CL, ML	A–6
*Montevallo: MtD, MtF. For Townley parts, see Townley series.	>2.5	>6	0–7	Shaly silt loam	ML, SM, GM, CL–ML, SM–SC, GM–GC	A–4
			7–19	Shaly silt loam	SM, GC, ML, CL, CL–ML, SC, SM–SC, GM–GC	A–2, A–4, A–6
			19–35	Soft shale.		
Nectar: NeB, NeC, NeD	>5	>5	0–7	Silt loam	CL–ML, ML	A–4
			7–49	Silty clay loam, or clay loam.	CL	A–6, A–7
			49–55	Silty clay	CL, CH, MH, ML	A–7
			55–65	Soft shale and sandstone	ML	A–4, A–6
Palmerdale: Pr	>6	>6	0–80	Very shaly silt loam	ML, CL, GM, SC, SM, GC, CL–ML, SM–SC, GM–GC	A–4, A–6
Remlap: ReB2, ReC2, ReD2	>6	>6	0–7	Silty clay loam	ML, CL	A–4, A–6, A–7
			7–80	Clay	MH	A–7
Spadra: Sa	>6	>5	0–7	Fine sandy loam	ML, SM	A–2, A–4
			7–41	Loam	CL	A–4, A–6
			41–84	Fine sandy loam	ML, CL, SM, SC, GM, GC, CL–ML, SM–SC, GM–GC	A–2, A–4
Stemley: StB	>6	1.5–3	0–6	Cherty loam	ML, SM, CL–ML, GM	A–4, A–2
			6–18	Cherty loam	SC, CL	A–6, A–2
			18–30	Cherty loam	SC, CL	A–6, A–2
			30–65	Cherty silty clay	SC, GC	A–2
Taft: Ta	>5	0–1.5	0–8	Silt loam	CL–ML, CL	A–4
			8–21	Silt loam	CL	A–4, A–6
			21–75	Silty clay loam	CL	A–6
Townley: TnB, TnC	1.5–3.5	>6	0–10	Silty clay loam	ML, CL, CL–ML	A–4
			10–30	Clay	CL, CH	A–6, A–7

properties significant in engineering—Continued

Percentage less than 3 inches passing sieve—				Liquid limit	Plasticity index	Permeability	Available water capacity	Reaction	Shrink-swell potential	Corrosivity to—	
No. 4 (4.7 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)							Uncoated steel	Concrete
				Percent		*Inches per hour*	*Inches per inch of soil*	*pH*			
95-100	95-100	80-95	75-95	20-30	5-10	0.6-2.0	0.18-0.22	4.5-5.5	Low	Moderate	High.
95-100	95-100	90-100	80-95	25-35	5-10	0.6-2.0	0.18-0.20	4.5-5.5	Low	Moderate	High.
90-100	80-100	75-100	70-95	25-50	10-20	0.2-0.6	0.07-0.08	4.5-5.5	Low	Moderate	High.
95-100	90-100	70-90	40-60	20	NP-8	0.6-2.0	0.12-0.16	4.0-5.5	Low	Low	High.
95-100	90-100	75-90	40-60	20-30	5-15	0.6-2.0	0.16-0.19	4.0-5.5	Low	Low	High.
95-100	90-100	80-95	40-60	25-35	11-20	0.6-2.0	0.16-0.19	4.0-5.5	Low	Low	High.
65-90	55-80	55-75	50-65	20-30	3-7	0.6-2.0	0.10-0.15	5.1-6.0	Low	Moderate	Moderate.
65-90	55-80	55-70	50-65	25-35	4-10	0.6-2.0	0.09-0.14	5.1-6.0	Low	Moderate	Moderate.
65-90	55-80	55-70	50-65	25-35	4-10	0.6-2.0	0.09-0.14	5.1-6.0	Low	Moderate	Moderate.
50-82	25-70	25-70	25-65	25-35	4-10	0.6-2.0	0.07-0.14	5.1-6.0	Low	Moderate	Moderate.
70-90	65-85	60-75	50-70	20-30	4-10	2.0-6.0	0.14-0.20	4.5-5.5	Low	Moderate	High.
70-95	60-85	55-75	50-70	20-30	5-12	0.6-2.0	0.12-0.18	4.5-5.5	Low	Moderate	High.
70-95	60-85	55-75	50-70	20-30	5-12	0.6-2.0	0.12-0.18	4.5-5.5	Low	Moderate	High.
85-100	80-95	75-90	70-80	35-50	10-25	0.6-2.0	0.10-0.18	4.5-5.5	Low	Moderate	High.
60-90	60-90	50-80	35-75	40	NP-10	0.6-2.0	0.06-0.12	4.5-6.0	Low	Moderate	Moderate.
55-90	50-90	30-80	30-75	20-40	5-15	0.6-2.0	0.05-0.10	4.5-6.0	Low	Moderate	Moderate.
95-100	80-95	75-92	50-85	20-25	3-7	0.6-2.0	0.14-0.21	4.5-6.0	Low	Moderate	High.
95-100	80-100	75-99	70-95	30-45	14-25	0.2-0.6	0.12-0.18	4.5-5.5	Moderate	Moderate	High.
95-100	80-100	75-99	70-95	40-60	15-30	0.2-0.6	0.12-0.18	4.5-5.5	Moderate	Moderate	High.
65-85	60-80	55-80	50-75	35-46	8-17	0.2-0.6	0.06-0.12	4.5-5.5	Moderate	Moderate	High.
60-85	55-80	50-75	45-60	25-40	3-16	2.0-6.0	0.06-0.13	4.0-5.5	Low	Moderate	High.
90-100	90-100	85-95	65-80	30-50	8-22	0.2-0.6	0.16-0.20	3.6-5.0	Moderate	High	High.
95-100	90-100	90-100	85-99	70-92	30-44	0.06-0.2	0.10-0.16	3.6-5.0	High	High	High.
85-100	80-100	65-80	30-75	20	NP-3	0.6-2.0	0.11-0.24	4.5-5.5	Low	Low	High.
90-100	90-100	80-95	55-75	25-40	8-15	0.6-2.0	0.12-0.24	4.5-5.5	Low	Low	High.
70-100	70-100	40-85	20-65	30	NP-10	0.6-2.0	0.10-0.15	4.5-5.5	Low	Low	High.
55-80	50-75	40-70	20-55	30	NP-8	0.6-2.0	0.10-0.15	5.1-6.5	Low	Moderate	Moderate.
65-85	50-75	45-80	30-55	25-35	12-20	0.6-2.0	0.10-0.15	5.1-6.5	Low	Moderate	Moderate.
65-85	50-75	45-80	30-55	25-35	12-20	0.06-0.2	0.01-0.02	5.1-6.5	Low	Moderate	Moderate.
20-60	15-50	10-40	5-15	25-35	12-20	0.06-0.2	0.01-0.04	5.1-6.5	Low	Moderate	Moderate.
90-100	90-100	90-100	85-95	20-30	5-10	0.6-2.0	0.13-0.20	4.5-6.0	Low	High	Moderate. or high.
100	95-100	90-100	85-95	25-35	8-15	0.6-2.0	0.15-0.20	4.5-6.0	Low	High	Moderate. or high.
95-100	90-100	85-100	80-95	25-40	10-20	0.06-0.2	0.07-0.10	4.5-5.5	Low	High	Moderate. or high.
80-98	70-95	65-90	50-65	35	3-10	0.6-2.0	0.12-0.14	4.2-5.5	Low	Moderate	High.
80-100	80-100	75-99	70-95	30-55	12-30	0.06-0.2	0.12-0.18	4.2-5.5	Moderate	Moderate	High.

TABLE 5.—*Estimates of soil*

Soil series and map symbols	Depth to—		Depth from surface	USDA texture	Classification	
	Bedrock	Seasonal high water table			Unified	AASHTO
	Feet	*Feet*	*Inches*			
Tupelo: Tu	3–6	1–2	0–8	Silt loam	CL, CL–ML	A–4, A–6
			8–14	Silty clay loam	ML, CL, CL–ML	A–4, A–6
			14–29	Silty clay	MH, CH, ML, CL	A–7
			29–50	Clay	MH, CH, ML, CL	A–7
Wedhadkee: Wa	>4	0–1	0–9	Silt loam or loam	CL–ML, ML, CL	A–4
			9–52	Silty clay loam	CL, CL–ML	A–4, A–6
			52–70	Cherty sand	GM, GC, ML, CL, CL–ML, SM, SC, SM–SC, GM–GC	A–2, A–4
Wynnville: WnB	>4	1.5–2.5	0–7	Fine sandy loam	CL–ML, ML, CL, SM, SC, SM–SC	A–4
			7–23	Loam	CL–ML, ML, CL, SM–SC	A–4, A–6
			23–33	Loam	SM, SC, CL–ML, ML, CL	A–4, A–6
			33–48	Sandy clay loam	CL, ML, CL–ML, SC, SM, SM–SC	A–4, A–6
			48–72	Sandy clay loam	CL, ML, CL–ML, SC, SM, SM–SC	A–4, A–6

[1]NP means nonplastic.

properties considered are those that affect both absorption of effluent and construction and operation of the system. Properties that affect absorption are permeability, depth to water table, and susceptibility to flooding. Slope affects difficulty of layout and construction and the risk of soil erosion, lateral seepage, and downslope flow of effluent.

Sewage lagoons are shallow ponds constructed to hold sewage within a depth of 2 to 5 feet for the time required for the bacterial decomposition of soils. The lagoon consists of a nearly level floor, surrounded by embankments of compacted soil material. The assumption is made that the embankment is compacted to medium density and the pond is protected from flooding. Properties considered that affect the pond floor are permeability, organic matter, and slope. The soil properties that affect the embankment are the properties of the embankment material as interpreted from the Unified Soil Classification and the amount of stones, if any, that influence the ease of excavation and compaction of the embankment material.

Sanitary landfill is a method used to dispose of refuse by burying it in the soil. The waste is spread in thin layers, compacted, and covered with soil throughout the disposal period. Landfill areas are subject to heavy vehicular traffic. Soil properties that affect suitability for landfill are ease of excavation, hazard of polluting groundwater, and trafficability. Ratings apply only to a depth of about 6 feet, and, therefore, limitation ratings of *slight* or *moderate* may not be valid if excavations are to be much deeper than that. For some soils, reliable predictions can be made to a depth of 10 to 15 feet, but in most instances geologic investigations will be needed below a depth of about 6 feet.

Trench-type sanitary landfill is a dug trench in which refuse is buried daily, or more frequently if necessary. The refuse is covered with a layer of soil material at least 6 inches thick, usually of soil excavated in digging the trench. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill.

In an area-type sanitary landfill, refuse is placed on the surface of the soil in successive layers. The daily and final cover material generally must be imported. A final cover of soil material at least 2 feet thick is placed over the fill when it is completed.

Daily cover for landfill generally must be obtained from a source away from the site; therefore soils are given suitability ratings for use as cover. Required soil characteristics relative to both daily and final cover material are nearly enough alike for one rating to serve. Suitability of a soil for use as cover is based on properties that reflect workability; ease of digging, moving, and spreading over the refuse daily during both wet and dry periods; slope; and thickness of the soil material.

Shallow excavations require digging or trenching to a depth of less than 6 feet. Examples include excavations for pipelines, sewer lines, telephone and power transmission lines, basements, open ditches, and cemeteries. Desirable soil properties are good workability, resistance to sloughing, gentle slopes, and freedom from flooding and from a high water table.

Dwellings, small commercial buildings, as rated in

properties significant in engineering—Continued

Percentage less than 3 inches passing sieve—				Liquid limit	Plasticity index	Permeability	Available water capacity	Reaction	Shrink-swell potential	Corrosivity to—	
No. 4 (4.7 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)							Uncoated steel	Concrete
				Percent		*Inches per hour*	*Inches per inch of soil*	*pH*			
100	100	90–100	75–95	20–30	5–15	0.6–2.0	0.10–0.18	5.1–6.0	Low	High	Moderate.
100	100	90–100	75–95	35–45	5–15	0.06–0.2	0.10–0.18	5.1–6.0	Moderate	High	Moderate.
100	100	90–100	75–95	40–60	10–45	0.06–0.2	0.10–0.14	5.1–6.0	High	High	Moderate.
100	100	90–100	75–95	40–70	10–45	0.06–0.2	0.10–0.14	5.6–7.8	High	High	Low.
90–100	90–100	80–95	60–90	20–30	2–10	2.0–6.0	0.10–0.18	4.5–5.5	Low	High	Moderate.
90–100	90–100	85–100	75–90	20–36	5–15	0.6–2.0	0.16–0.20	5.6–7.8	Low	High	Low.
50–82	25–70	20–65	15–60	30	NP–10	0.2–6.0	0.08–0.14	5.6–7.8	Low	High	Low.
85–100	85–100	70–100	40–90	30	NP–12	0.6–2.0	0.15–0.20	4.0–5.5	Low	Moderate	High.
85–100	85–100	70–100	35–90	20–35	2–12	0.6–2.0	0.15–0.20	4.0–5.5	Low	Moderate	High.
85–100	85–100	70–100	35–90	20–35	2–12	0.06–0.2	0.04–0.08	4.0–5.5	Low	Moderate	High.
85–100	85–100	80–100	35–80	20–45	2–14	0.06–0.2	0.02–0.06	4.0–5.5	Low to moderate.	Moderate	High.
85–100	85–100	80–100	35–80	20–45	2–14	0.2–0.6	0.02–0.06	4.0–5.5	Low to moderate.	Moderate	High.

table 8, are not more than three stories high and are supported by foundation footings placed in undisturbed soil. The features that affect the rating of a soil for dwellings are those that relate to capacity to support load and resist settlement under load and those that relate to ease of excavation. Soil properties that affect capacity to support load are wetness, susceptibility to flooding, density, plasticity, texture, and shrink-swell potential. Those that affect excavation are wetness, slope, and content of stones.

Local roads and streets, as rated in table 8 have an all-weather surface expected to carry automobile traffic all year. They have a subgrade of underlying soil material; a base of gravel, crushed rock, or soil material stabilized with lime or cement; and a flexible or rigid surface, commonly of asphalt or concrete. These roads are graded to shed water and have ordinary provisions for drainage. They are built mainly from soil at hand, and most cuts and fills are less than 6 feet deep.

Soil properties that most affect design and construction of roads and streets are load-supporting capacity and stability of the subgrade, and the workability and quantity of cut and fill material available. The AASHTO and Unified classifications of the soil material, and the shrink-swell potential, indicate traffic supporting capacity. Wetness and flooding affect stability of the material. Slope and wetness affect ease of excavation and amount of cut and fill needed to reach an even grade.

Camp areas are used intensively for tents and small camp trailers and the accompanying activities of outdoor living. Little site preparation is normally required, other than shaping and leveling for tent and parking areas. These areas are subject to heavy foot traffic and limited vehicular traffic. The best soils have nearly level slopes, good drainage, a surface free of rocks and coarse fragments, freedom from flooding during periods of heavy use, and a surface that is firm after rain but not dusty when dry.

Picnic areas are attractive natural or landscaped tracts used mainly for preparing meals and eating outdoors. These areas are subject to heavy foot traffic, but most of the vehicular traffic is confined to access roads. The best soils are firm when wet but not dusty when dry; are free from flooding during use; and do not have slopes or stoniness that greatly increase cost of leveling sites or of building access roads.

Playgrounds are areas used intensively for baseball, football, badminton, and similar organized games. Soils suitable for this use need to withstand intensive foot traffic. The best soils have a nearly level surface free of coarse fragments and rock outcrops, good drainage, freedom from flooding during heavy use, and a surface that is firm after rain but not dusty when dry. If grading and leveling are required, depth to bedrock is important.

Paths and trails are used for local and cross-country travel by foot or horseback. Design and layout should require little or no cutting and filling. The best soils are at least moderately well drained, are firm when wet but not dusty when dry, are flooded not more than once during the season of use, have slopes of less than 15 percent, and have few or no rocks or stones on the surface.

TABLE 6.—*Interpretation of soils for water management*

Soil series and map symbols	Degree and kind of limitation for—			Soil features affecting—		
	Pond reservoir area	Embankments, dikes, and levees	Excavated ponds (aquifer-fed)	Drainage for crops and pasture	Irrigation	Te div
Albertville: AbB, AbC, AbD	Moderate: seepage.	Moderate: hard to pack.	Severe: no water.	Not needed	Complex slopes	Compl
Allen:						
AeB	Moderate: seepage.	Moderate: hard to pack.	Severe: no water.	Not needed	Favorable	Favora
AeC	Moderate: seepage.	Moderate: hard to pack.	Severe: no water.	Not needed	Complex slopes	Favora
AeD, AeE	Moderate: seepage.	Moderate: hard to pack.	Severe: no water.	Not needed	Complex slopes	Slope
Barfield: Bc	Severe: depth to bedrock.	Severe: thin layer; unstable fill; hard to pack.	Severe: no water.	Not needed	Rooting depth	Depth rock slope
Bodine: BdC, BdF	Severe: seepage	Moderate: piping.	Severe: no water.	Not needed	Complex slopes; seepage.	Slope
Crevasse: Cr	Severe: seepage	Severe: seepage	Severe: deep to water.	Floods	Droughty; floods; seepage.	Not ne
Decatur:						
DcB	Severe: seepage	Moderate: piping.	Severe: no water.	Not needed	Erodes easily	Erodes
DcC, DtC2	Severe: seepage	Moderate: piping.	Severe: no water.	Not needed	Complex slopes; erodes easily.	Compl easil
Ellisville: Ee	Moderate: seepage.	Moderate: unstable fill.	Severe: deep to water.	Floods	Favorable	Not ne
Ennis: En	Severe: seepage	Moderate: unstable fill; piping.	Severe: deep to water.	Floods	Seepage; droughty.	Not ne
Fullerton:						
FtB	Moderate: seepage.	Moderate: hard to pack.	Severe: no water.	Not needed	Complex slopes	Compl
FtC, FtD	Moderate: seepage.	Moderate: hard to pack.	Severe: no water.	Not needed	Complex slopes	Slope
Hamblen: Ha	Moderate: seepage.	Moderate: piping.	Severe: deep to water.	Floods	Favorable	Not ne
Hanceville: HcB, HcC	Moderate: seepage.	Severe: hard to pack.	Severe: no water.	Not needed	Complex slopes	Compl
*Hartsells:						
HeB, HeC	Severe: depth to bedrock.	Moderate: low strength.	Severe: no water.	Not needed	Complex slopes	Compl
HhD For Hector part of HhD, see Hector series.	Severe: depth to bedrock.	Moderate: low strength.	Severe: no water.	Not needed	Complex slopes	Slope
Hector: HrC, HrF	Severe: depth to bedrock.	Severe: thin layer.	Severe: no water.	Not needed	Complex slopes	Depth rock

Leadvale:						
LaA	Slight	Moderate: low strength.	Severe: no water.	Percs slowly	Favorable	Percs s
LaB	Slight	Moderate: low strength.	Severe: no water.	Percs slowly	Complex slopes	Percs s
*Linker:						
LeB, LeC, LeD	Severe: depth to bedrock.	Moderate: low strength.	Severe: no water.	Not needed	Complex slopes	Compl
LhC	Severe: depth to bedrock.	Moderate: low strength.	Severe: no water.	Not needed	Complex slopes	Compl
For Hector part of LhC, see Hector series.						
Lobelville: Lo	Slight	Moderate: seepage.	Moderate to severe: deep to water.	Floods	Droughty	Not ne
Minvale: MnB, MnC	Moderate: seepage.	Moderate: piping.	Severe: no water.	Not needed	Fast intake	Compl
*Montevallo: MtD, MtF	Severe: depth to bedrock.	Severe: thin layer.	Severe: no water.	Not needed	Rooting depth; slope; droughty.	Slope; bedr
For Townley parts, see Townley series.						
Nector: NeB, NeC, NeD	Moderate: seepage.	Moderate: low strength.	Severe: no water.	Not needed	Complex slopes	Compl
Palmerdale: Pr	Severe: seepage	Moderate: unstable fill.	Severe: no water.	Not needed	Complex slopes; droughty; slope.	Compl slop
Remlap: ReB2, ReC2, ReD2	Slight	Severe: hard to pack.	Severe: no water.	Not needed	Slope; percs slowly.	Percs s
Spadra: Sa	Moderate: seepage.	Moderate: piping.	Severe: no water.	Not needed	Favorable	Not ne
Stemley: StB	Slight	Moderate: piping.	Severe: no water.	Percs slowly	Complex slopes	Percs s
Taft: Ta	Slight	Moderate: piping; low strength.	Severe: no water.	Percs slowly	Wet	Percs s
Townley: TnB, TnC	Moderate: depth to bedrock.	Moderate: thin layer.	Severe: no water.	Not needed	Droughty; slope	Depth rock dept
Tupelo: Tu	Slight	Severe: low strength; hard to pack.	Severe: no water.	Percs slowly; poor outlets.	Slow intake; wet	Not ne
Wehadkee: Wa	Moderate: seepage.	Moderate: piping.	Slight	Poor outlets; wet.	Wet	Not ne
Wynnville: WnB	Slight	Moderate: low strength.	Severe: no water.	Percs slowly	Complex slopes	Percs s

TABLE 7.—*Engineering*

[Tests performed by State of Alabama Highway

Soil name and location	Parent material	Report No. S71 Ala–5–	Depth	Moisture-density[1]	
				Maximum dry density	Optimum moisture
			Inches	*Pounds per cubic foot*	*Percent*
Allen loam: NE¼SE¼ sec. 35, T. 13 S., R. 1 W.	Colluvium from sandstone and shale.	5–1	0–7	119	11
		5–3	21–50	117	12
		5–0	70–88	118	12
Bodine cherty silt loam: SW¼NE¼ sec. 14, T. 14 S., R. 1 W.	Residuum from cherty limestone.	9–2	2–9	111	14
		9–5	22–38	119	12
		9–7	60–84	119	13
Decatur silt loam: 2.3 miles NE of Summit, County Rd. 25, NW¼SW¼ sec. 29, T. 9 S., R. 2 E.	Residuum from limestone and cherty limestone.	6–1	0–6	107	17
		6–2	6–26	99	25
		6–4	56–84	99	23
Ellisville silt loam: NE¼NW¼ sec. 12, T. 13 S., R. 1 W.	Silty alluvium	4–1	0–6	103	16
		4–3	12–29	99	19
		4–6	53–65	110	13
Remlap silty clay loam: 0.4 mi. NE of Remlap on old Ala. Hwy. 75, 75 feet NW of road, NW¼NE¼ sec. 13, T. 14 S., R. 1 W.	Residuum from argillaceous limestone.	8 1	0–5	94	23
		8 2	5–16	81	37
		8–5	40–57	86	31
Spadra fine sandy loam: NE¼NW¼ sec. 30, T. 13 S., R. 1 E.	Alluvium chiefly from an admixture of sandstone and shale.	1–1	0–5	113	12
		1–2	5–22	113	16
		1–6	63–75	117	13
Wynnville fine sandy loam: SE¼NE¼ sec. 7, T. 11 S., R. 1 E.	Residuum from sandstone.	7–1	0–7	118	11
		7–2	7–23	118	12
		7–4	33–48	114	14
		7–5	48–72	108	17

[1]Based on AASHTO Designation T 99 (*2*).

[2]Mechanical analyses according to the AASHTO Designation T 88 (*2*). Results by this procedure frequently may differ somewhat from results that would have been obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHTO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions.

Following are explanations of the columns in table 9.

Road fill is soil material used in embankments for roads. The suitability ratings reflect (1) the predicted performance of soil after it has been placed in an embankment that has been properly compacted and provided with adequate drainage, and (2) the relative ease of excavating the material at borrow areas.

Sand and gravel are used in great quantities in many kinds of construction. The ratings in table 9 indicate the location of probable sources of sand and gravel. A source rated as good or fair generally has a layer at least 3 feet thick, the top of which is within a depth of 6 feet. The ratings do not take into account thickness of overburden, location of the water table, or other factors that affect mining of the materials, nor do they indicate quality of the deposit.

Topsoil is used for topdressing an area where vegetation is to be established and maintained. Suitability is affected mainly by ease of working and spreading the soil material, as for preparing a seedbed; natural fertility of the material, or the response of plants when fertilizer is applied; and absence of substances toxic to plants. Texture of the soil material and its content of coarse fragments that affect suitability, but also considered in the ratings is damage that will result at the area from which topsoil is taken.

Formation and Classification of the Soils

This section discusses the major factors of soil formation as they have existed in Blount County. It also provides the classification of the soils of the county according to the system currently used by the National Cooperative Soil Survey.

Factors of Soil Formation

The characteristics of the soil at any given place are determined by the physical and mineralogical composition of the parent material; the climate under

test data
Department, Montgomery, Alabama]

Mechanical analysis[2]						Liquid limit	Plasticity index	Classification	
Percentage passing sieve—									
2-inch	1-inch	No. 4 (4.7 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)			AASHTO[3]	Unified[4]
						Percent			
	100	[5]97	96	93	46	17	3	A-4(0)	SM
	100	[5]99	99	98	57	23	5	A-4(1)	CL-ML
100	96	[6]92	91	87	44	22	6	A-4(0)	SM-SC
	100	90	78	67	57	22	5	A-4(0)	CL-ML
100	92	65	45	27	19	38	14	A-2-6(0)	SC
100	85	63	48	34	29	41	16	A-2-7(1)	SC
	100	99	99	96	75	32	12	A-6(7)	CL
		100	99	97	83	49	20	A-7-6(18)	ML
		100	99	97	82	44	11	A-7-5(11)	ML
			100	100	98	30	8	A-4(8)	CL
			100	100	95	38	14	A-6(14)	CL
			100	100	21	[7]NP	NP	A-2-4(0)	SM
	100	98	96	90	75	48	19	A-7-6(15)	ML
	100	99	99	99	97	92	50	A-7-5(61)	MH
	100	99	99	99	98	77	36	A-7-5(45)	MH
100	99	96	95	94	48	17	NP	A-4(0)	SM
			[6]90	100	67	30	11	A-6(6)	CL
			100	100	53	21	3	A-4(0)	ML
	100	99	99	99	48	16	2	A-4(0)	SM
	100	99	99	99	55	22	7	A-4(1)	CL-ML
	100	99	99	99	50	24	3	A-4(0)	SM
	100	93	93	92	42	29	4	A-4(0)	SM

The mechanical analyses used in this table are not suitable for use in naming textural classes for soil.
[2]Based on AASHTO Designation M 145-49 (*2*).
[3]Based on the Unified soil classification system (*3*).
[5]100 percent passes ¾-inch and ⅜-inch sieves.
[6]96 percent passes ¾-inch and ⅜-inch sieves.
[7]NP means nonplastic.

which the soil material accumulated and has existed since accumulation; the plant and animal life on and in the soil; the relief, or lay of the land; and the length of time the forces of soil development have acted on the soil material.

Climate and vegetation are the active factors of soil formation. They act on parent material that has accumulated through the weathering of rocks and bring about the development of genetically related horizons. The effects of climate and vegetation are conditioned by the relief. The parent material also affects the kind of profile that forms and in extreme instances determines it almost entirely. Time is needed for the parent material to change into a soil. Normally, a long period of time is required for the development of distinct horizons.

Parent material

Parent material is the unconsolidated mass in which a soil forms. It is largely responsible for the chemical and mineralogical composition of soils. The parent material of the soils in Blount County is of two kinds: (1) residual material weathered from rocks in place and (2) material transported by water or gravity and laid down as unconsolidated deposits of clay, silt, and sand.

The parent material that weathered in place consists of residuum from sandstone, shale, and limestone bedrock of several geologic formations (*1*).

The soils along the larger streams in the county formed in alluvium transported and deposited by water and laid down as unconsolidated deposits of sand, silt, or clay. Some of this material came from nearby uplands and some came from a great distance. The soils on first bottoms still receive new soil material and have a weakly developed profile. Soils on terrace positions have been in place long enough for distinct horizons to have developed. Narrow strips of local alluvium that have not been modified by soil forming processes are along narrow drainageways throughout the uplands.

TABLE 8.—*Degree and kinds of limitations or*

[An asterisk in the first column means that one or more mapping units consists of two or more kinds this reason it is necessary to follow carefully the instructions for

Soil series and map symbols	Septic tank absorption fields	Sewage lagoons	Sanitary landfill (trench)	Sanitary landfill (area)	Suitability as source of daily cover for landfill	Shallow excavations
Albertville:						
AbB	Severe: percs slowly.	Moderate: slope.	Moderate: too clayey.	Slight	Poor: too clayey.	Moderate: too clayey.
AbC	Severe: percs slowly.	Severe: slope	Moderate: too clayey.	Slight	Poor: too clayey.	Moderate: too clayey; slope.
AbD	Severe: percs slowly.	Severe: slope	Moderate: too clayey.	Moderate: slope.	Poor: too clayey.	Moderate: too clayey; slope.
Allen:						
AeB	Slight	Moderate: slope.	Slight	Slight	Good	Slight
AeC	Slight	Severe: slope	Slight	Slight	Good	Slight
AeD	Moderate: slope.	Severe: slope	Slight	Moderate: slope.	Good	Moderate: slope.
AeE	Severe: slope	Severe: slope	Moderate: slope.	Severe: slope	Good	Severe: slope
Barfield: Bc	Severe: depth to bedrock; rock outcrops.	Severe: depth to bedrock; slope.	Severe: depth to bedrock; rock outcrops.	Severe: slope	Poor: large stones; too clayey.	Severe: depth to bedrock.
Bodine:						
BdC	Moderate: slope.	Severe: slope; seepage.	Severe: seepage.	Severe: seepage.	Poor: small stones.	Severe: small stones.
BdF	Severe: slope	Severe: slope	Severe: slope; seepage.	Severe: slope; seepage.	Poor: small stones; slope.	Severe: small stones; slope.
Crevasse: Cr	Severe: floods	Severe: seepage; floods.	Severe: seepage; floods.	Severe: seepage; floods.	Poor: too sandy.	Severe: floods
Decatur:						
DcB	Slight	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey.	Moderate: too clayey.
DcC	Moderate: slope.	Severe: slope	Severe: too clayey.	Slight	Poor: too clayey.	Moderate: too clayey; slope.
DtC2	Moderate: slope.	Severe: slope	Severe: too clayey.	Moderate: slope.	Poor: too clayey.	Moderate: too clayey; slope.
Ellisville: Ee	Severe: floods	Moderate: seepage.	Severe: flooding.	Severe: flooding.	Good	Severe: floods
Ennis: En	Severe: floods	Severe: seepage.	Severe: floods	Severe: floods	Fair: small stones.	Severe: floods
Fullerton:						
FtB	Slight	Moderate: slope; seepage; small stones.	Severe: too clayey.	Slight	Poor: too clayey.	Moderate: too clayey; small stones.
FtC	Moderate: slope.	Severe: slope	Severe: too clayey.	Slight	Poor: too clayey.	Moderate: too clayey; small stones.
FtD	Moderate: slope.	Severe: slope	Severe: too clayey.	Moderate: slope.	Poor: too clayey.	Moderate: too clayey; small stones; slope.

suitability of soils for town and country planning

of soil. The soils in such mapping units may have different properties and limitations, and for referring to other series that appear in the first column of this table]

Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Camp areas	Picnic areas	Playgrounds	Paths and trails
Moderate: shrink-swell potential.	Moderate: shrink-swell potential.	Moderate: shrink-swell potential.	Severe: low strength.	Moderate: percs slowly.	Slight	Moderate: slope.	Slight.
Moderate: shrink-swell potential; slope.	Moderate: shrink-swell potential; slope.	Moderate: shrink-swell potential; slope.	Severe: low strength.	Moderate: percs slowly.	Slight	Severe: slope	Slight.
Moderate: shrink-swell potential; slope.	Moderate: shrink-swell potential; slope.	Severe: slope	Severe: low strength.	Moderate: percs slowly; slope.	Moderate: slope.	Severe: slope	Slight.
Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight	Slight	Moderate: slope.	Slight.
Slight	Slight	Severe: slope	Moderate: low strength; slope.	Slight	Slight	Severe: slope	Slight.
Moderate: slope.	Moderate: slope.	Severe: slope	Moderate: low strength; slope.	Moderate: slope.	Moderate: slope.	Severe: slope	Slight.
Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Moderate: slope.
Severe: depth to bedrock; shrink-swell potential.	Severe: depth to bedrock; shrink-swell potential.	Severe: depth to bedrock; shrink-swell potential.	Severe: depth to bedrock; shrink-swell potential.	Severe: rock outcrops; too clayey.	Severe: rock outcrops; too clayey.	Severe: rock outcrops; too clayey; slope.	Severe: rock outcrops; too clayey.
Moderate: slope.	Moderate: slope.	Severe: slope	Moderate: slope.	Moderate: coarse fragments; slope.	Moderate: coarse fragments; slope.	Severe: slope	Moderate: coarse fragments.
Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope.
Severe: floods	Severe: floods	Severe: floods	Severe: floods	Severe: floods; too sandy.	Severe: floods; too sandy.	Severe: floods; too sandy.	Severe: floods; too sandy.
Moderate: low strength.	Moderate: low strength.	Moderate: low strength; slope.	Moderate: low strength.	Slight	Slight	Moderate: slope.	Slight.
Moderate: low strength; slope.	Moderate: low strength; slope.	Severe: slope	Moderate: low strength; slope.	Slight	Slight	Severe: slope	Slight.
Moderate: low strength; slope.	Moderate: low strength; slope.	Severe: slope	Moderate: low strength; slope.	Moderate: texture of surface layer; slope.	Moderate: texture of surface layer; slope.	Severe: slope	Moderate: texture of surface layer.
Severe: floods	Severe: floods	Severe: floods	Severe: floods	Slight	Moderate: floods.	Moderate: floods.	Slight.
Severe: floods	Severe: floods	Severe: floods	Severe: floods	Moderate: floods; small stones.	Moderate: floods; small stones.	Severe: floods; small stones.	Moderate: small stones.
Slight	Slight	Moderate: slope.	Moderate: low strength.	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Moderate: small stones.
Slight	Slight	Moderate: slope.	Moderate: slope; low strength.	Moderate: small stones; slope.	Moderate: small stones; slope.	Severe: slope; small stones.	Moderate: small stones.
Moderate: slope.	Moderate: slope.	Severe: slope	Moderate: slope; low strength.	Moderate: small stones; slope.	Moderate: small stones; slope.	Severe: slope; small stones.	Moderate: small stones.

TABLE 8.—*Degree and kinds of limitations or*

Soil series and map symbols	Septic tank absorption fields	Sewage lagoons	Sanitary landfill (trench)	Sanitary landfill (area)	Suitability as source of daily cover for landfill	Shallow excavations
Hamblen: Ha	Severe: floods; wet.	Severe: floods; wet.	Severe: floods	Severe: floods; wet.	Good	Severe: floods
Hanceville:						
HcB	Slight	Moderate: slope; seepage.	Moderate: too clayey.	Slight	Fair: too clayey.	Moderate: too clayey.
HcC	Moderate: slope.	Severe: slope	Moderate: too clayey.	Slight	Fair: too clayey.	Moderate: too clayey.
*Hartsells:						
HeB	Severe: depth to bedrock.	Severe: depth to bedrock.	Severe: depth to bedrock.	Slight	Fair: thin layer.	Severe: depth to bedrock.
HeC	Severe: depth to bedrock.	Severe: depth to bedrock; slope.	Severe: depth to bedrock.	Slight	Fair: thin layer; slope.	Severe: depth to bedrock.
HhD For Hector part, see Hector series, unit HrF.	Severe: depth to bedrock.	Severe: depth to bedrock; slope.	Severe: depth to bedrock.	Moderate: slope.	Fair: thin layer; slope.	Severe: depth to bedrock; slope.
Hector:						
HrC	Severe: depth to bedrock.	Severe: depth to bedrock.	Severe: depth to bedrock.	Severe: seepage.	Poor: thin layer.	Severe: depth to bedrock.
HrF	Severe: depth to bedrock; slope.	Severe: depth to bedrock; slope.	Severe: depth to bedrock; slope.	Severe: seepage; slope.	Poor: thin layer; slope.	Severe: depth to bedrock; slope.
Leadvale:						
LaA	Severe: percs slowly.	Slight	Moderate: wet.	Severe: wet	Fair: too clayey.	Moderate: wet.
LaB	Severe: percs slowly.	Moderate: slope.	Moderate: wet.	Severe: wet	Fair: too clayey.	Moderate: wet.
*Linker:						
LeB	Severe: depth to bedrock.	Severe: depth to bedrock.	Severe: depth to bedrock.	Slight	Fair: thin layer.	Severe: depth to bedrock.
LeC	Severe: depth to bedrock.	Severe: depth to bedrock; slope.	Severe: depth to bedrock.	Slight	Fair: thin layer; slope.	Severe: depth to bedrock.
LeD	Severe: depth to bedrock.	Severe: depth to bedrock; slope.	Severe: depth to bedrock.	Moderate: slope.	Fair: thin layer; slope.	Severe: depth to bedrock.
LhC For Hector part, see Hector series, unit HrC.	Severe: depth to bedrock.	Severe: depth to bedrock; slope.	Severe: depth to bedrock.	Moderate: slope.	Fair: thin layer; slope.	Severe: depth to bedrock.
Lobelville: Lo	Severe: floods; wet.	Severe: floods; wet.	Severe: floods; wet.	Severe: floods	Fair: small stones.	Severe: floods
Minvale:						
MnB	Slight	Moderate: seepage; slope.	Slight	Slight	Fair: small stones.	Moderate: small stones.
MnC	Slight	Severe: slope	Slight	Slight	Fair: small stones.	Moderate: small stones; slope.
*Montevallo:						
MtD For Townley part, see Townley series, unit TnC.	Severe: depth to bedrock.	Severe: depth to bedrock; slope.	Severe: depth to bedrock.	Moderate: slope.	Poor: small stones.	Severe: small stones; depth to bedrock.

suitability of soils for town and country planning—Continued

Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Camp areas	Picnic areas	Playgrounds	Paths and trails
Severe: floods	Severe: floods	Severe: floods	Severe: floods	Severe: floods	Moderate: floods.	Moderate: floods.	Slight.
Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell; slope.	Moderate: shrink-swell potential.	Slight	Slight	Moderate: slope.	Slight.
Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell; slope.	Moderate: shrink-swell potential.	Slight	Slight	Severe: slope	Slight.
Moderate: depth to bedrock.	Severe: depth to bedrock.	Moderate: slope; depth to bedrock.	Moderate: depth to bedrock.	Slight	Slight	Moderate: depth to bedrock; slope.	Slight.
Moderate: depth to bedrock.	Severe: depth to bedrock.	Moderate: slope; depth to bedrock.	Moderate: depth to bedrock.	Slight	Slight	Severe: slope	Slight.
Severe: depth to bedrock; slope.	Severe: depth to bedrock.	Severe: slope	Moderate: depth to bedrock; slope.	Moderate: slope.	Moderate: slope.	Severe: slope	Slight.
Severe: depth to bedrock.	Severe: depth to bedrock.	Severe: depth to bedrock.	Severe: depth to bedrock.	Severe: rock outcrops.	Severe: rock outcrops.	Severe: depth to bedrock.	Slight.
Severe: depth to bedrock; slope.	Severe: depth to bedrock; slope.	Severe: depth to bedrock; slope.	Severe: depth to bedrock; slope.	Severe: rock outcrops; slope.	Severe: rock outcrops; slope.	Severe: depth to bedrock; slope.	Severe: slope.
Moderate: wet	Severe: wet	Moderate: wet	Moderate: low strength.	Slight	Slight	Slight	Slight.
Moderate: wet	Severe: wet	Moderate: wet	Moderate: low strength.	Slight	Slight	Moderate: slope.	Slight.
Moderate: depth to bedrock.	Severe: depth to bedrock.	Moderate: slope; depth to bedrock.	Moderate: depth to bedrock.	Slight	Slight	Moderate: depth to bedrock; slope.	Slight.
Moderate: depth to bedrock.	Severe: depth to bedrock.	Moderate: slope; depth to bedrock.	Moderate: depth to bedrock.	Slight	Slight	Severe: slope	Slight.
Moderate: depth to bedrock; slope.	Severe: depth to bedrock.	Severe: slope	Moderate: depth to bedrock; slope.	Moderate: slope.	Moderate: slope.	Severe: slope	Slight.
Moderate: depth to bedrock; slope.	Severe: depth to bedrock.	Severe: slope	Moderate: depth to bedrock; slope.	Slight	Slight	Severe: slope	Slight.
Severe: floods	Severe: floods	Severe: floods	Severe: floods	Severe: floods	Moderate: floods.	Moderate: floods; small stones.	Slight.
Moderate: low strength.	Moderate: low strength.	Moderate: slope; low strength.	Moderate: low strength.	Slight	Slight	Moderate: slope.	Slight.
Moderate: low strength; slope.	Moderate: low strength; slope.	Severe: slope	Moderate: low strength; slope.	Slight	Slight	Severe: slope	Slight.
Moderate: slope; depth to bedrock.	Severe: depth to bedrock.	Severe: slope	Moderate: depth to bedrock; slope.	Moderate: small stones; slope.	Moderate: small stones; slope.	Severe: depth to bedrock; slope.	Moderate: small stones.

TABLE 8.—*Degree and kinds of limitations or*

Soil series and map symbols	Septic tank absorption fields	Sewage lagoons	Sanitary landfill (trench)	Sanitary landfill (area)	Suitability as source of daily cover for landfill	Shallow excavations
*Montevallo: Continued						
MtF For Townley part, see Townley series, unit TnC.	Severe: depth to bedrock; slope.	Severe: depth to bedrock; slope.	Severe: depth to bedrock; slope.	Severe: slope.	Poor: small stones; slope.	Severe: small stones; depth to bedrock; slope.
Nectar:						
NeB	Severe: percs slowly.	Moderate: slope.	Moderate: too clayey.	Slight.	Poor: too clayey.	Moderate: too clayey.
NeC	Severe: percs slowly.	Severe: slope.	Moderate: too clayey.	Slight.	Poor: too clayey.	Moderate: too clayey; slope.
NeD	Severe: percs slowly.	Severe: slope.	Moderate: too clayey.	Moderate: slope.	Poor: too clayey.	Moderate: too clayey; slope.
Palmerdale: Pr	Severe: slope.	Severe: seepage; slope.	Severe: seepage; slope.	Severe: seepage; slope.	Poor: small stones; slope.	Severe: small stones; slope.
Remlap:						
ReB2	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight.	Poor: too clayey.	Severe: too clayey.
ReC2	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Slight.	Poor: too clayey.	Severe: too clayey.
ReD2	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey.	Severe: too clayey.
Spadra: Sa	Moderate: floods.	Severe: floods.	Moderate: floods.	Moderate: floods.	Good.	Moderate: floods.
Stemley: StB	Severe: percs slowly.	Moderate: slope.	Moderate: wet.	Severe: wet.	Fair: small stones.	Moderate: small stones; wet.
Taft: Ta	Severe: percs slowly.	Slight.	Moderate: wet.	Moderate: wet.	Fair: too clayey.	Severe: wet.
Townley:						
TnB	Severe: percs slowly; depth to bedrock.	Severe: depth to bedrock.	Severe: depth to bedrock; too clayey.	Slight.	Poor: too clayey.	Severe: depth to bedrock.
TnC	Severe: percs slowly; depth to bedrock.	Severe: depth to bedrock; slope.	Severe: depth to bedrock; too clayey.	Moderate: slope.	Poor: too clayey.	Severe: depth to bedrock.
Tupelo: Tu	Severe: percs slowly.	Moderate: depth to bedrock.	Severe: depth to bedrock; too clayey.	Moderate: wet.	Poor: too clayey.	Severe: too clayey.
Wehadkee: Wa	Severe: floods; wet.	Severe: floods; wet.	Severe: floods; wet.	Severe: floods; wet.	Poor: wet.	Severe: wet; floods.
Wynnville: WnB	Severe: percs slowly.	Moderate: slope.	Moderate: depth to bedrock.	Slight.	Good.	Severe: wet.

suitability of soils for town and country planning—Continued

Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Camp areas	Picnic areas	Playgrounds	Paths and trails
Severe: slope	Severe: depth to bedrock; slope.	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: depth to bedrock; slope.	Severe: slope.
Moderate: shrink-swell potential.	Moderate: shrink-swell potential.	Moderate: shrink-swell potential; slope.	Severe: low strength.	Slight	Slight	Moderate: percs slowly; slope.	Slight.
Moderate: shrink-swell potential; slope.	Moderate: shrink-swell potential; slope.	Moderate: shrink-swell potential; slope.	Severe: low strength.	Slight	Slight	Severe: slope	Slight.
Moderate: shrink-swell potential; slope.	Moderate: shrink-swell potential; slope.	Severe: slope	Severe: low strength.	Moderate: slope.	Moderate: slope.	Severe: slope	Slight.
Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: small stones; slope.	Severe: small stones; slope.	Severe: small stones; slope.	Severe: small stones; slope.
Severe: shrink-swell potential.	Severe-shrink-swell potential.	Severe: shrink-swell potential.	Severe: shrink-swell potential.	Moderate: too clayey.	Moderate: too clayey.	Moderate: too clayey.	Moderate: too clayey.
Severe: shrink-swell potential.	Severe: shrink-swell potential.	Severe: shrink-swell potential.	Severe: shrink-swell potential.	Moderate: too clayey; slope.	Moderate: too clayey; slope.	Severe: slope	Moderate: too clayey.
Severe: shrink-swell potential.	Severe: shrink-swell potential.	Severe: shrink-swell potential.	Severe: shrink-swell potential.	Moderate: too clayey; potential.	Moderate: too clayey; slope.	Severe: slope	Moderate: too clayey.
Severe: floods	Severe: floods	Severe: floods	Moderate: floods; low strength.	Slight	Slight	Slight	Slight.
Moderate: wet	Moderate: wet	Moderate: wet; slope.	Moderate: low strength.	Moderate: percs slowly.	Slight	Moderate: small stones; percs slowly; wet; slope.	Slight.
Severe: wet	Severe: wet	Severe: wet	Moderate: wet.	Severe: wet; percs slowly.	Moderate: wet.	Moderate: wet; percs slowly.	Moderate: wet.
Moderate: depth to bedrock; shrink-swell potential.	Severe: depth to bedrock.	Moderate: depth to bedrock; slope; shrink-swell potential.	Severe: low strength.	Moderate: percs slowly.	Slight	Moderate: depth to bedrock; slope.	Slight.
Moderate: depth to bedrock; shrink-swell potential; slope.	Severe: depth to bedrock.	Severe: slope	Severe: low strength.	Moderate: percs slowly; slope.	Moderate: slope.	Severe: slope	Slight.
Severe: shrink-swell potential; wet.	Severe: depth to bedrock; shrink-swell potential; wet.	Severe: shrink-swell potential; wet.	Severe: shrink-swell potential; low strength.	Moderate: percs slowly; wet.	Moderate: wet.	Moderate: percs slowly; wet.	Moderate: wet.
Severe: wet; floods.	Severe: wet; floods.	Severe: wet; floods.	Severe: wet; floods.	Severe: wet; floods.	Severe: wet; floods.	Severe: wet; floods.	Severe: wet.
Moderate: wet	Severe: wet	Moderate: slope; wet.	Slight	Slight	Slight	Moderate: slope.	Slight.

TABLE 9.—*Interpretation of soils as source of material*

[An asterisk in the first column means that one or more mapping units in that series is made up of more than one kind of soil. The soils in such mapping units may have different properties and limitations, and for this reason it is necessary to follow carefully the instructions for referring to other series that appear in the first column of this table]

Soil series and map symbols	Suitability as source of—			
	Road fill	Sand	Gravel	Topsoil
Albertville: AbB, AbC, AbD	Poor: low strength	Unsuited: excess fines	Unsuited: excess fines	Poor: thin layer.
Allen:				
AeB, AeC	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Good.
AeD	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Fair: slope.
AeE	Fair: low strength; slope.	Unsuited: excess fines	Unsuited: excess fines	Poor: slope.
Barfield: Bc	Poor: large stones; thin layer; low strength.	Unsuited: excess fines	Unsuited: excess fines	Poor: large stones; thin layer; too clayey.
Bodine:				
BdC	Good	Unsuited: excess fines	Poor: excess fines	Poor: small stones.
BdF	Poor: slope	Unsuited: excess fines	Poor: excess fines	Poor: small stones; slope.
Crevasse: Cr	Good	Good	Unsuited: excess fines	Poor: too sandy.
Decatur: DcB, DcC, DtC2	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Fair: too clayey.
Ellisville: Ee	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Good.
Ennis: En	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Poor: small stones.
Fullerton: FtB, FtC, FtD	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Poor: small stones.
Hamblen: Ha	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Good.
Hanceville: HcB, HcC	Poor: low strength	Unsuited: excess fines	Unsuited: excess fines	Fair: too clayey.
*Hartsells:				
HeB, HeC	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Good.
HhD	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Fair: slope.
For Hector part, see Hector series, unit HrF.				
Hector:				
HrC	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Fair: thin layer.
HrF	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Poor: slope.
Leadvale: LaA, LaB	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Good.
*Linker:				
LeB, LeC, LhC	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Good.
For Hector part of LhC, see Hector series, unit HrC.				
LeD	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Fair: slope; small stones.
Minvale: MnB, MnC	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Poor: small stones.
*Montevallo:				
MtD	Fair: thin layer	Unsuited: excess fines	Unsuited: excess fines	Poor: thin layer.
For Townley part, see Townley series.				
MtF	Poor: slope	Unsuited: excess fines	Unsuited: excess fines	Poor: thin layer; slope.
For Townley part, see Townley series.				
Nectar: NeB, NeC, NeD	Poor: low strength	Unsuited: excess fines	Unsuited: excess fines	Poor: thin layer.
Palmerdale: Pr	Poor: slope	Unsuited: excess fines	Unsuited: excess fines	Poor: small stones; slope.
Remlap: ReB2, ReC2, ReD2	Poor: shrink-swell	Unsuited: excess fines	Unsuited: excess fines	Poor: too clayey.
Spadra: Sa	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Fair: small stones.
Stemley: StB	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Poor: small stones.

TABLE 9.—*Interpretation of soils as source of material*—Continued

Soil series and map symbols	Suitability as source of—			
	Road fill	Sand	Gravel	Topsoil
Taft: Ta	Fair: low strength; wet	Unsuited: excess fines	Unsuited: excess fines	Fair: area reclaim.
Townley: TnB, TnC	Poor: thin layer; low strength.	Unsuited: excess fines	Unsuited: excess fines	Poor: thin layer; area reclaim.
Tupelo: Tu	Poor: shrink-swell potential; low strength.	Unsuited: excess fines	Unsuited: excess fines	Poor: too clayey.
Wehadkee: Wa	Poor: wet	Unsuited: excess fines	Unsuited: excess fines	Poor: wet.
Wynnville: WnB	Fair: low strength	Unsuited: excess fines	Unsuited: excess fines	Good.

Climate

Climate affects the physical, chemical, and biological relationships in the soil primarily through the influence of precipitation and temperature. Water dissolves minerals, supports biological activity, and transports mineral and organic residues through the soil profile. The amount of water that actually percolates through the soil over a broad area depends mainly on the amount and intensity of rainfall, the relative humidity, and the length of the frost-free period. The rate of downward percolation is also affected by the physiographic position and permeability of the soil. Temperature influences the kind and growth of plants and animals in and on the soil and determines the speed of physical changes and chemical reactions in the soil.

Blount County has a temperate, humid climate. Summer is long and hot. Humid weather begins in May and continues until about mid-September. Winter is not severe, and extended periods of severe cold are rare. The average length of the growing season is about 205 days, or from about April 5 to October 27.

Plant and animal life

Trees, grass, earthworms, micro-organisms and other forms of plant and animal life on and in the soils are active agents in the soil-forming processes. The kind of plants and animals are determined largely by the climate, but also to some extent by the parent material, relief, and length of time the soil material has been in place.

The native vegetation in the county was a forest of hardwoods and pine. The dominant hardwoods were oak and hickory on well drained uplands and yellow poplar, sweetgum, white oak, and red maple in the drainageways. On the better drained bottom land the dominant trees were white oak, birch, ash, maple, yellow poplar, and loblolly pine. Sweetgum, water oak, willow, and willow oak were dominant on the poorly drained bottom land. Loblolly and shortleaf pine were the dominant species of pine.

Animals continuously mix the soil material. Organisms are active in the decay of organic matter, the fixing of nitrogen, and the weathering of rock. Earthworms and other small invertebrates also carry on a slow but continuous cycle of soil mixing.

Relief

Relief influences the formation of soils through its effect on runoff and erosion, movement of water within the soil, plant cover, and, to some extent, soil temperature. The relief, or topography, of the county is determined largely by the underlying bedrock and the effect of dissection by streams. The topography ranges from nearly level to very steep. Runoff is more rapid on steep soils than on nearly level soils. Consequently, less water enters and moves through the steep soils. The hazard of erosion increases as the slope increases. The influence of relief is modified by the other four soil-forming factors.

In Blount County such soils as Decatur, Allen, and Minvale soils have slopes of less than 15 percent and have a deep, well developed profile. In the steeper areas soil material is removed about as fast as it accumulates. Montevallo soils, for example, are steeply sloping and have a thin, weakly expressed profile.

Relief also has affected the soils on the flood plains through its influence on drainage. Ellisville and Wehadkee soils formed in similar parent material on flood plains. Ellisville soils are on old natural levees; they are well drained and have a brown subsoil. In contrast, Wehadkee soils are in low swags or depressional areas; they are poorly drained and have a seasonal high water table and a gray subsoil.

Time

Time is required for the formation of distinct horizons in the soil. The length of time needed for the development of a profile depends on many other factors of soil formation. Generally, less time is needed for a soil to develop in a humid, warm region than in a dry or cold region. Fine-textured parent material develops into soil more slowly than coarse-textured parent material.

The soils in Blount County range from very young to very old. The young soils lack well developed, genetically related horizons, but often have some character-

istics of this parent material. Young soils in Blount County are on first bottoms and steep hillsides. Cravasse, Ellisville, and Hamblen soils are examples of young soils formed on flood plains. These soils have been in place for only a short period of time. They have not been changed enough by the soil-forming processes to have developed well defined, genetically related horizons. Material is still being deposited on these soils in most places.

Montevallo soils are examples of young soils that formed on very steep hillsides. They have thin, weakly developed horizons because the soil material is removed by geologic erosion about as fast as it accumulates.

An old soil is one that has been in place for a long time and is considered to have reached equilibrium with its environment. It has a well developed profile of genetically related horizons. The soil material bears little resemblance to the parent material in which the soil formed. Allen, Decatur, and Minvale soils are examples of old soils in Blount County.

Classification of the Soils

Soils are classified so that we can more easily remember their significant characteristics. Classification enables us to assemble knowledge about the soils, to see their relationship to one another and to the whole environment, and to develop principles that help us to understand their behavior and their response to manipulation. First through classification, and then through use of soil maps, we can apply our knowledge of soils to specific fields and other tracts of land.

The narrow categories of classification, such as those used in detailed soil surveys, allow us to organize and apply knowledge about soils in managing farms, fields, and woodland; in developing rural areas; in engineering work; and in many other ways. Soils are placed in broad classes to facilitate study and comparison in large areas such as countries and continents.

The system of soil classification currently used was adopted by the National Cooperative Soil Survey in 1965 (*11*). Because this system is under continual study, readers interested in developments of the current system should search the latest literature available.

The current system of classification has six categories. Beginning with the broadest, these categories are order, suborder, great group, subgroup, family, and series. The criteria used as a basis for classification are soil properties that are observable or measurable, but the properties are selected so that soils of similar genesis, or mode of origin, are grouped together. In table 10, the soil series of Blount County are placed in four categories of the current system. Classes of the current system are briefly defined in the following paragraphs.

ORDER: Ten soil orders are recognized in the cur-

TABLE 10.—*Soil series classified according to the current system of classification*

Series	Family	Subgroup	Order
Albertville	Clayey, mixed, thermic	Typic Hapludults	Ultisols.
Allen	Fine-loamy, siliceous, thermic	Typic Paleudults	Ultisols.
Barfield	Clayey, mixed, thermic	Lithic Hapludolls	Mollisols.
Bodine	Loamy-skeletal, siliceous, thermic	Typic Paleudults	Ultisols.
Crevasse	Mixed, thermic	Typic Udipsamments	Entisols.
Decatur	Clayey, kaolinitic, thermic	Rhodic Paleudults	Ultisols.
Ellisville	Fine-silty, mixed, thermic	Dystric Fluventic Eutrochrepts	Inceptisols.
Ennis	Fine-loamy, siliceous, thermic	Fluventic Dystrochrepts	Inceptisols.
Fullerton	Clayey, kaolinitic, thermic	Typic Paleudults	Ultisols.
Hamblen[1]	Fine-loamy, siliceous, thermic	Fluvaquentic Eutrochrepts	Inceptisols.
Hanceville	Clayey, mixed, thermic	Typic Rhodudults	Ultisols.
Hartsells	Fine-loamy, siliceous, thermic	Typic Hapludults	Ultisols.
Hector	Loamy, siliceous, thermic	Lithic Dystrochrepts	Inceptisols.
Leadvale	Fine-silty, siliceous, thermic	Typic Fragiudults	Ultisols.
Linker	Fine-loamy, siliceous, thermic	Typic Hapludults	Ultisols.
Lobelville	Fine-loamy, siliceous, thermic	Fluvaquentic Dystrochrepts	Inceptisols.
Minvale	Fine-loamy, siliceous, thermic	Typic Paleudults	Ultisols.
Montevallo	Loamy-skeletal, mixed, thermic, shallow	Typic Dystrochrepts	Inceptisols.
Nectar	Fine-loamy, siliceous, thermic	Typic Hapludults	Ultisols.
Palmerdale	Loamy-skeletal, mixed, acid, thermic	Typic Udorthents	Entisols.
Remlap	Clayey, mixed, thermic	Typic Hapludults	Ultisols.
Spadra	Fine-loamy, siliceous, thermic	Typic Hapludults	Ultisols.
Stemley	Coarse-loamy, siliceous, thermic	Glossic Fragiudults	Ultisols.
Taft	Fine-silty, siliceous, thermic	Glossaquic Fragiudults	Ultisols.
Townley	Clayey, mixed, thermic	Typic Hapludults	Ultisols.
Tupelo	Fine, mixed, thermic	Aquic Hapludalfs	Alfisols.
Wehadkee[2]	Fine-loamy, mixed, nonacid, thermic	Typic Fluvaquents	Entisols.
Wynnville	Fine-loamy, siliceous, thermic	Glossic Fragiudults	Ultisols.

[1]Hamblen soils in Blount County are taxadjuncts to the Hamblen series. These soils are slightly more acid in the lower part of the solum than is defined within the range of the series, but this difference does not alter the usefulness and behavior of the soil.

[2]Wehadkee soils in Blount County are taxadjuncts to the Wehadkee series. They do not have the content of mica defined as within the range of the series, but this difference does not alter their usefulness and behavior.

rent system. The properties used to differentiate the orders are those that tend to give broad climatic groupings of soils. Two exceptions are Entisols and Histosols, which occur in many different climates. Each order is named with a word of three or four syllables ending in *sol* (Ultisol).

SUBORDER: Each order is divided into suborders, primarily on the basis of soil characteristics that produce classes having genetic similarity. A suborder narrows the broad climatic range permitted in the orders. The soil properties used to separate suborders are mainly those that reflect either the presence or absence of water-logging or soil differences resulting from the climate or vegetation. The names of suborders have two syllables. The last syllable indicates the order. An example is *Udult (Ud* meaning humid climate, and *ult,* from Ultisol).

GREAT GROUP: Each suborder is divided into great groups on the basis of uniformity in the kind and sequence of major soil horizons and features. The horizons used to make separations are those in which clay, iron, or humus have accumulated; those that have pans that interfere with growth of roots, movement of water, or both; and thick, dark colored surface horizons. The features used are the self-mulching properties of clay, soil temperature, major differences in chemical composition (mainly calcium, magnesium, sodium, and potassium), dark red and dark brown colors associated with basic rocks, and the like. The names of great groups have three or four syllables and are made by adding a prefix to the name of the suborder. An example is Hapludult (*Hapl,* meaning simple horizons, *ud* for humid climate, and *ult* for Ultisol).

SUBGROUP: Each great group is divided into subgroups, one representing the central (typic) segment of the group, and others, called intergrades, made up of soils that have mostly properties of the group but also one or more properties of another great group, suborder, or order. Subgroups may also be made if soil properties intergrade outside the range of any other great group, suborder, or order. The names of subgroups are derived by placing one or more adjectives before the name of the great group. An example is Typic Hapludult (a typical Hapludult).

FAMILY: Soil families are established with a subgroup primarily on the basis of properties important to plant growth or on the basis of soil behavior when used for engineering. Some of these properties are texture, mineralogy, reaction, soil temperature, permeability, thickness of horizons, and consistence. A family name consists of a series of adjectives preceding the subgroup name. The adjectives are the class names for texture, mineralogy, and so on, that are used as family differentiae, as shown in table 10. An example is the fine-loamy, siliceous, thermic family of Typic Hapludults.

SERIES: The series is a group of soils that have major horizons that, except for texture of the surface layer, are similar in important characteristics and in arrangement in the profile.

General Nature of the County

This section provides general information about the relief, drainage, and water supply of Blount County. It also gives information about farming and climate in the county.

Relief, Drainage, and Water Supply

The general slope of the county is southwestward. Slopes range from level to more than 45 percent.

The Mulberry Fork, Locust Fork, Blackburn Fork, and Calvert Prong of the Black Warrior River are the major streams in the county. The Mulberry Fork River is the boundary along the entire western side of the county. The Locust Fork River begins in the eastern part of the county, flows north-northeasterly into Etowah and Marshall Counties, reenters the county on the northeast side, and flows southwesterly across the central part of the county. The Blackburn Fork River is in the southeastern part of the county and flows in a generally western direction. The Calvert Prong River flows in a southwestern direction through the east-central part of the county. The Calvert Prong River empties into the Blackburn Fork River, which empties into the Locust Fork River. A small area in the extreme northern part of the county, drained by Brown and Spring Creeks, flows northward and ultimately drains into the Tennessee River. Champion, Slab, Sugar, and Copeland Creeks are some of the larger creeks in the county.

The water supply is adequate for domestic use in all parts of the county. Most of the incorporated towns have water systems. These systems have been extended in some areas to serve nearby rural areas. Smokerise, an unincorporated area in the southwestern part of the county, has a water system. Inland Lake, in the southeastern part of the county, is a source of industrial water for Birmingham. Most rural domestic water is obtained from drilled wells. Ponds furnish water for livestock on many farms.

Farming

According to the 1969 Census of Agriculture, 1,850 farms were reported in the county. The number of farms has decreased in recent years, but the size of the farms has increased.

Cotton, corn, soybeans, and truck crops are the principal crops grown in the county. Tomatoes and watermelons are the principal truck crops. In recent years the acreage of cotton and corn has decreased, while soybean acreage has increased. However, cotton remains the chief cash crop.

The major source of farm income is from the sale of livestock and poultry and their products.

Climate[6]

The climate of Blount County is temperate, and rainfall is generally well distributed throughout the year.

[6] R. O. CROSBY, climatologist for Alabama, National Weather Service, U. S. Department of Commerce, prepared this section.

Except in summer, day to day weather is the result of the movement of pressure systems and contrasting air masses across the south. During summer the climate borders on subtropical, and moist tropical air and high pressure systems prevail. Temperature and precipitation for Blount County are shown in table 11.

Spring is the most changeable season. It has a large range in temperature and very variable rainfall. Wintry weather hangs on in March, and the days are frequently cold, rainy, and windy, but the approach of May brings sunny, warm, pleasant days. Freezing temperatures may occur as late as the end of April, but in daytime temperatures will reach 90° F or above in May. Low temperatures late in spring vary greatly as a result of terrain. March is the wettest month of the year, and rainfall decreases in April and May. Dry spells are frequent in May, but moisture is usually adequate for plant growth. These dry spells are favorable for cultivation and other needed farm operations. Severe thunderstorms and occasional tornadoes are likely in spring.

Summer is quite long. Warm to hot weather begins in May or June and continues into September and often well into October. Breaks in the hot weather are few in July and August. The frequency of afternoon thundershowers is the only phenomenon to distinguish one day from another. Thundershowers provide most of the summer rainfall and occur on the average of about 1 day in 3. There is great variation in the amount of rain. Rainfall during July is essential for most crops to produce maximum yield, and July is the most dependable of the summer months for rain. The average number of days with maximum temperature of 90° F or more is near 75 for the season. High temperatures of 100° F or more usually occur during extended periods of dry weather, during which the effects of the heat are more harmful to crops.

Fall is a season of transition during which hot, humid weather of early September gradually gives way to mild, sunny, and usually dry days of October. Rainfall is usually light and infrequent; skies are sunny during the day and clear at night; humidity is low and temperature extremes are rare. Extended dry periods are frequent and occasionally result in mild droughts. The dry weather is beneficial and favorable for harvest. During some years the lack of moisture hinders the germination and growth of small grain that is planted early in fall. Prewinter cold spells begin in mid-October and become more frequent in November.

Table 12 gives the dates by probabilities of the first low temperatures in fall and the last low temperature in spring. The first and last frosts often are determined by the terrain, and the hillsides remain frost-free longer than the lower valleys.

In winter there are frequent shifts and interaction between mild air that has been warmed and moistened by travel over the Gulf of Mexico and cold dry air from the north. As a result, winter is characterized by considerable cloudiness and precipitation, mainly rain. Snow is likely every winter, but amounts are usually light and it remains on the ground for only a day or two. Measurable rain can be expected on 1 day out of 3 and cloudiness often prevails for 3 or 4 days at a time. Lows of 32° F or less can be expected 2 days out of 3 during December and January and on almost half of

TABLE 11.—*Temperature and precipitation*

[All data based on records from Oneonto in the period 1941-70]

Month	Temperature				Precipitation			
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—		Average snowfall
			Maximum temperature equal to or higher than—	Minimum temperature equal to or lower than—		Less than—	More than—	
	°F	°F	°F	°F	In	In	In	In
January	53	31	71	11	5.3	2.2	10.0	0.9
February	57	32	73	16	5.8	3.1	9.6	.7
March	63	39	81	23	6.3	3.7	10.3	.3
April	75	48	85	33	5.2	2.5	7.9	0
May	82	56	92	43	3.6	1.4	5.8	0
June	89	63	97	53	3.9	2.3	5.2	0
July	90	66	98	59	4.6	1.5	7.4	0
August	91	66	98	57	4.1	1.4	8.3	0
September	84	59	95	46	3.4	.9	6.6	0
October	76	47	87	30	2.5	.4	4.9	0
November	64	38	78	23	4.3	1.9	6.6	[1]
December	55	32	69	17	5.2	2.3	7.9	.1
Year	73	48	[2]100	[3]8	54.2	47.0	69.7	2.0

[1]Trace, less than 0.05 inch.
[2]Average annual maximum.
[3]Average annual minimum.

TABLE 12.—*Probability of last low temperature in spring and first in fall*

[Based on data for Oneonta, Blount County; Gadsden, Etowah County; and St. Bernard, Cullman County]

Probability	Dates for given probability and temperature					
	20° F or less	24° F or less	28° F or less	32° F or less	36° F or less	40° F or less
Spring:						
1 year in 10 later than	March 15	March 27	April 14	April 21	May 4	May 14
1 year in 4 later than	February 26	March 18	April 7	April 17	April 22	May 9
1 year in 3 later than	February 22	March 15	April 4	April 15	April 21	May 8
2 years in 3 later than	February 5	February 28	March 20	April 5	April 12	April 24
3 years in 4 later than	January 31	February 21	March 17	April 2	April 11	April 22
9 years in 10 later than	January 23	February 17	March 12	March 30	April 3	April 20
Fall:						
1 year in 10 earlier than	November 23	November 6	October 27	October 19	October 9	September 28
1 year in 4 earlier than	November 29	November 11	November 1	October 23	October 15	October 5
1 year in 3 earlier than	November 30	November 15	November 4	October 26	October 16	October 9
2 years in 3 earlier than	December 9	November 27	November 12	November 6	October 26	October 17
3 years in 4 earlier than	December 14	November 29	November 15	November 7	October 28	October 20
9 years in 10 earlier than	December 18	December 3	November 27	November 10	November 4	October 26

the days in November, February, and March. Severely cold weather with temperatures of 12° F or less seldom occur and then only for a day or two.

Prevailing winds vary with location, but they are usually northerly in winter, southerly in spring and summer, and northeasterly in fall. Average humidity for the year is near 70 percent, with large variations during the day. The average number of hours of sunshine is near 2,700, which is about 60 percent of possible.

Rainfall is usually the most important weather element in determining crop yield. In most years the amount and timeliness of the rain is adequate for good yields. However, wet and dry spells of varying intensity do occur. A mild drought which might affect crop yield slightly but not cause a total crop failure is likely for about a month on the average of 2 years out of 3. Severe droughts which result in almost total crop failure are very rare and none has occurred in the past 30 years.

Literature Cited

(1) ADAMS, GEORGE I., CHARLES BUTTS, L. W. STEPHENSON, AND WYTHE COOKE.
1926. GEOLOGY OF ALABAMA. Geol. Surv. Ala., Spec. Rep. 14, 312 pp., illus.

(2) AMERICAN ASSOCIATION OF STATE HIGHWAY [AND TRANSPORTATION] OFFICIALS.
1970. STANDARD SPECIFICATIONS FOR HIGHWAY MATERIALS AND METHODS OF SAMPLING AND TESTING. Ed. 10, 2 vol., illus.

(3) AMERICAN SOCIETY FOR TESTING AND MATERIALS.
1974. METHOD FOR CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES. ASTM Stand. D 2487-69. *In* 1974 Annual Book of ASTM Standards, part 19, 464 pp., illus.

(4) DUTROW, G. F., J. S. MCKNIGHT, AND S. GUTTENBERG.
1970. INVESTMENT GUIDE FOR COTTONWOOD PLANTERS. Southern Forest Exp. Sta. Res. Paper SO-59, 15 pp.

(5) HEDLUND, ARNOLD, AND J. M. EARLOS.
1973. FOREST STATISTICS FOR ALABAMA COUNTIES. U.S. Dep. Agric. Forest Serv. Bull. SO-39, 65 pp.

(6) MAISONHOLDER, LOUIS C.
1960. COTTONWOOD PLANTATIONS FOR SOUTHERN BOTTOMLANDS. Southern Forest Exp. Sta. Occas. Paper 179, 24 pp.

(7) SCHNUR, G. LUTHER.
1937. YIELD, STAND, AND VOLUME TABLES FOR EVEN-AGED UPLAND OAK FOREST. U.S. Dep. Agric. Tech. Bull. 560, 88 pp., illus. [Reprinted 1961.]

(8) UNITED STATES DEPARTMENT OF AGRICULTURE.
1929. VOLUME, YIELD, AND STAND TABLES FOR SECOND-GROWTH SOUTHERN PINES. Misc. Publ. 50, 202 pp.

(9) UNITED STATES DEPARTMENT OF AGRICULTURE.
1951. SOIL SURVEY MANUAL. U.S. Dep. Agric. Handb. 18, 503 pp., illus. [Supplements replacing pp. 173-188 issued May 1962]

(10) UNITED STATES DEPARTMENT OF AGRICULTURE.
1960. MANAGEMENT AND INVENTORY OF SOUTHERN HARDWOODS. Forest Serv., U.S. Dep. of Agric. Handb. 181, 102 pp.

(11) UNITED STATES DEPARTMENT OF AGRICULTURE.
1960. SOIL CLASSIFICATION, A COMPREHENSIVE SYSTEM, 7TH APPROXIMATION. Soil Conserv. Serv., 265 pp., illus. [Supplements issued March 1967, September 1968, and April 1969.]

Glossary

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available water capacity (also termed available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of clay on the surface of a soil aggregate. Synonyms; clay coat, clay skin.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material, and tends to stretch somewhat and pull apart, rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard and brittle; little affected by moistening.

Depth to rock. Bedrock is so near the surface that it affects specified use of the soil.

Drainage class (natural). Refers to the condition of frequency and duration of periods of saturation or partial saturation that existed during the development of the soil, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven different classes of natural soil drainage are recognized.

Excessively drained soils are commonly very porous and rapidly permeable and have a low available water capacity.

Somewhat excessively drained soils are also very permeable and are free from mottling throughout their profile.

Well-drained soils are nearly free from mottling and are commonly of intermediate texture.

Moderately well drained soils commonly have a slowly permeable layer in or immediately beneath the solum. They have uniform color in the A and upper B horizons and mottling in the lower B and the C horizons.

Somewhat poorly drained soils are wet for significant periods but not all the time, and some soils commonly have mottling at a depth below 6 to 16 inches.

Poorly drained soils are wet for long periods and are light gray and generally mottled from the surface downward, although mottling may be absent or nearly so in some soils.

Very poorly drained soils are wet nearly all the time. They have a dark-gray or black surface layer and are gray or light gray, with or without mottling, in the deeper parts of the profile.

Favorable. Features of the soil are favorable for intended use.

Fertility, soil. The quality of a soil that enables it to provide compounds, in adequate amounts and in proper balance, for growth of specified plants, when other growth factors such as light, moisture, temperature, and the physical condition of the soil are favorable.

Flood plain. Nearly level land, consisting of stream sediments, that borders a stream and is subject to flooding unless protected artificially.

Genesis, soil. The manner in which a soil originates. Refers especially to the processes initiated by climate and organisms that are responsible for the development of the solum, or true soil, from the unconsolidated parent material, as conditioned by relief and age of landform.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rains. The distinction between gully and rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by normal tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage. V-shaped gullies result if the material is more difficult to erode with depth; whereas U-shaped gullies result if the lower material is more easily eroded than that above it.

Horizon, soil. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes. These are the major horizons:

O horizon.—The layer of organic matter on the surface of a mineral soil. This layer consists of decaying plant residues.

A horizon.—The mineral horizon at the surface or just below an O horizon. This horizon is the one in which living organisms are most active and therefore is marked by the accumulation of humus. The horizon may have lost one or more of soluble salts, clay, and sesquioxides (iron and aluminum oxides).

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics caused (1) by accumulation of clay, sesquioxides, humus, or some combination of these; (2) by prismatic or blocky structure; (3) by redder or stronger colors than the A horizon; or (4) by some combination of these. Combined A and B horizons are usually called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon.—The weathered rock material immediately beneath the solum. In most soils this material is presumed to be like that from which the overlying horizons were formed. If the material is known to be different from that in the solum, a Roman numeral precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock usually underlies a C horizon but may be immediately beneath an A or B horizon.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are—

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Basin.—Water is applied rapidly to relatively level plots surrounded by levees or dikes.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops, or in orchards, to confine the flow of water to one direction.

Furrow.—Water is applied in small ditches made by cultivation implements used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Irrigation water, released at high points, flows onto the field with controlled distribution.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state. In engineering, a high liquid limit indicates that the soil has a high content of clay and a low capacity for supporting loads.

Low strength. The soil has inadequate strength to support loads.

Mottling, soil. Irregularly marked with spots of different colors that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are these: *fine,* less than 5 millimeters (about 0.2 inch) in diameter along the greatest dimension; *medium,* ranging from 5 millimeters to 15 millimeters (about 0.2 to 0.6 inch) in diameter along the greatest dimension; and *coarse,* more than 15 millimeters (about 0.6 inch) in diameter along the greatest dimension.

Percs slowly. Water moves through the soil slowly, affecting the specified use.

Permeability. The quality that enables the soil to transmit water or air. Terms used to describe permeability are as follows: *very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

pH value. A numerical means for designating acidity and alkalinity in soils. A pH value of 7.0 indicates precise neutrality; a higher value, alkalinity; and a lower value, acidity.

Piping. The soil is susceptible to the formation of tunnels or pipelike cavities by moving water.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from a semisolid to a plastic state.

Poor outlets. Surface or subsurface drainage outlets are difficult or expensive to install.

Profile, soil. A vertical section of the soil through all its horizons and extending into the parent material.

Reaction, soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. An acid, or "sour," soil is one that gives an acid reaction; an alkaline soil is one that is alkaline in reaction. In words, the degrees of acidity or alkalinity are expressed thus:

	pH		*pH*
Extremely acid	Below 4.5	Neutral	6.6 to 7.3
Very strongly acid	4.5 to 5.0	Mildly alkaline	7.4 to 7.8
Strongly acid	5.1 to 5.5	Moderately alkaline	7.9 to 8.4
Medium acid	5.6 to 6.0	Strongly alkaline	8.5 to 9.0
Slightly acid	6.1 to 6.5	Very strongly alkaline	9.1 and higher

Rooting depth. A layer that greatly restricts the downward rooting of plants occurs at a shallow depth.

Seepage. Water moves through the soil so quickly that it affects the specified use.

Silt. Individual mineral particles in a soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). Soil of the silt textural class is 80 percent or more silt and less than 12 percent clay.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows: *Very coarse sand* (2.0 to 1.0 millimeter); *coarse sand* (1.0 to 0.5 millimeter); *medium sand* (0.5 to 0.25 millimeter); *fine sand* (0.25 to 0.10 millimeter); *very fine sand* (0.10 to 0.05 millimeter); *silt* (0.05 to 0.002 millimeter); and *clay* (less than 0.002 millimeter). The separates recognized by the International Society of Soil Science are as follows: I (2.0 to 0.2 millimeter); II (0.2 to 0.02 millimeter); III (0.02 to 0.002 millimeter); IV (less than 0.002 millimeter).

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are— *platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles) adhering together without any regular cleavage, as in many claypans and hardpans).

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that it may soak into the soil or flow slowly to a prepared outlet without harm. Terraces in fields are generally built so they can be farmed. Terraces intended mainly for drainage have a deep channel that is maintained in permanent sod.

Terrace (geological). An old alluvial plain, ordinarily flat or undulating, bordering a river, lake, or the sea. Stream terraces are frequently called second bottoms, as contrasted to flood plains, and are seldom subject to overflow. Marine terraces were deposited by the sea and are generally wide.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer. Suitable soil material is not thick enough for use as borrow material or topsoil.

Tilth, soil. The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable, granular structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

Unstable fill. Banks of fill are likely to cave in or slough.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978 O—222–365

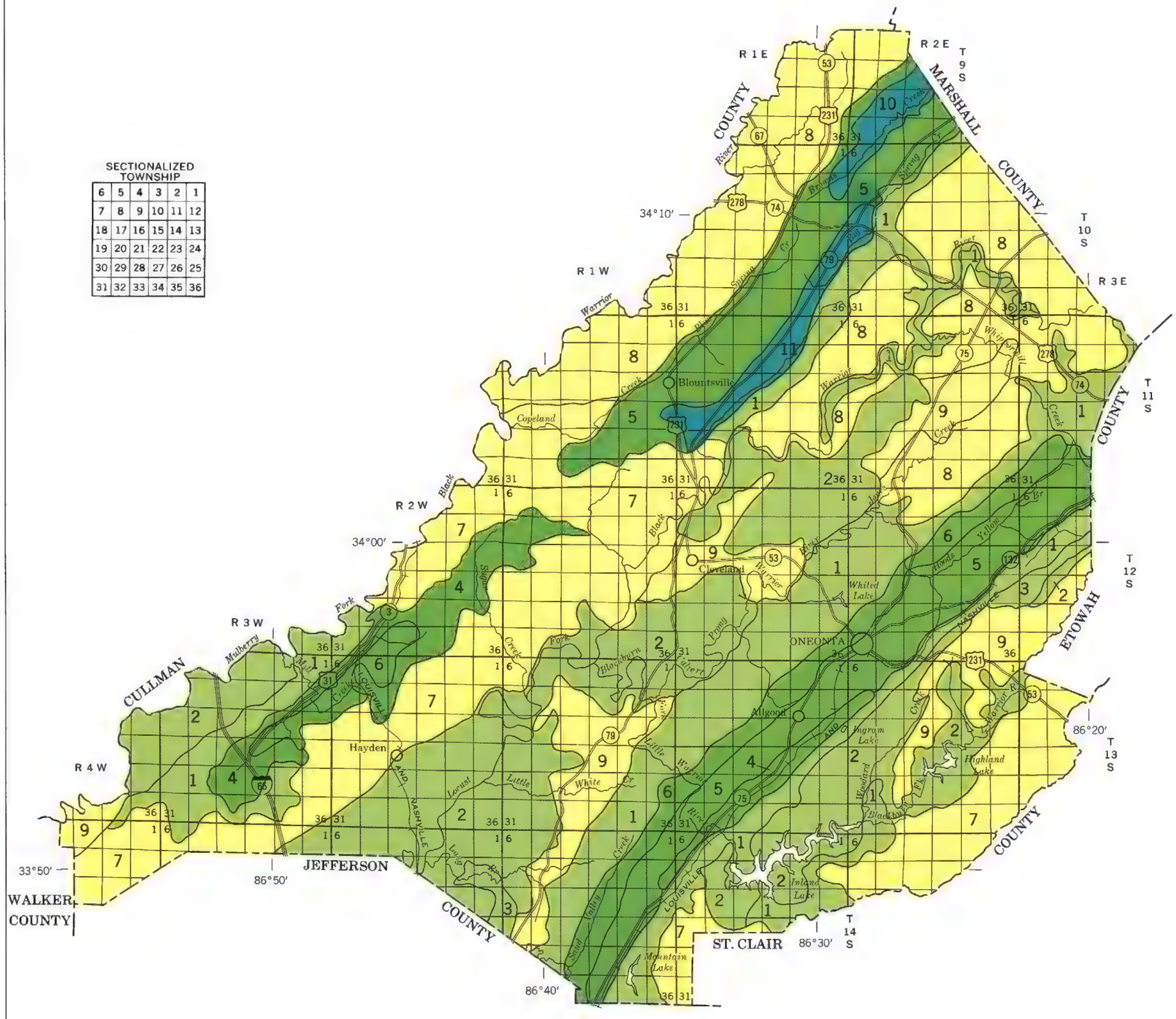
NRCS Accessibility Statement

This document is not accessible by screen-reader software. The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at ServiceDesk-FTC@ftc.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at http://offices.sc.egov.usda.gov/locator/app.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

SOIL ASSOCIATIONS

AREAS DOMINATED BY STEEP TO VERY STEEP SOILS THAT FORMED IN MATERIAL WEATHERED FROM SANDSTONE AND SHALE

1 — HECTOR-ROCK OUTCROP-ALLEN association: Shallow and deep, well drained soils and rock outcrop on uplands and foot slopes

2 — TOWNLEY-MONTEVALLO association: Moderately deep and shallow, well drained soils on uplands

3 — PALMERDALE association: Deep, somewhat excessively drained soils on uplands

AREAS DOMINATED BY STEEP TO VERY STEEP SOILS THAT FORMED IN MATERIAL WEATHERED CHIEFLY FROM LIMESTONE AND CHERTY LIMESTONE

4 — BARFIELD-ROCK OUTCROP-REMLAP association: Shallow and deep, well drained to excessively drained soils and rock outcrop on uplands

5 — BODINE-FULLERTON-HAMBLEN association: Deep, excessively drained to moderately well drained soils on uplands and flood plains

6 — BODINE-HECTOR-BARFIELD association: Deep and shallow, well drained to excessively drained soils on uplands

AREAS DOMINATED BY GENTLY SLOPING TO STRONGLY SLOPING SOILS THAT FORMED IN MATERIAL WEATHERED FROM SANDSTONE AND SHALE

7 — LINKER-HARTSELLS-HECTOR association: Moderately deep and shallow, well drained soils on uplands

8 — HARTSELLS-HECTOR-WYNNVILLE association: Shallow to deep, well drained and moderately well drained soils on uplands

9 — ALBERTVILLE-NECTAR-LINKER association: Deep and moderately deep, well drained soils on uplands

AREAS DOMINATED BY NEARLY LEVEL TO STRONGLY SLOPING SOILS THAT FORMED IN MATERIAL WEATHERED FROM LIMESTONE AND CHERTY LIMESTONE

10 — REMLAP-DECATUR-TUPELO association: Deep, well drained and somewhat poorly drained soils on uplands and low stream terraces

11 — MINVALE-FULLERTON-LOBELVILLE association: Deep, well drained and moderately well drained soils on uplands and flood plains

Compiled 1977

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ALABAMA AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP

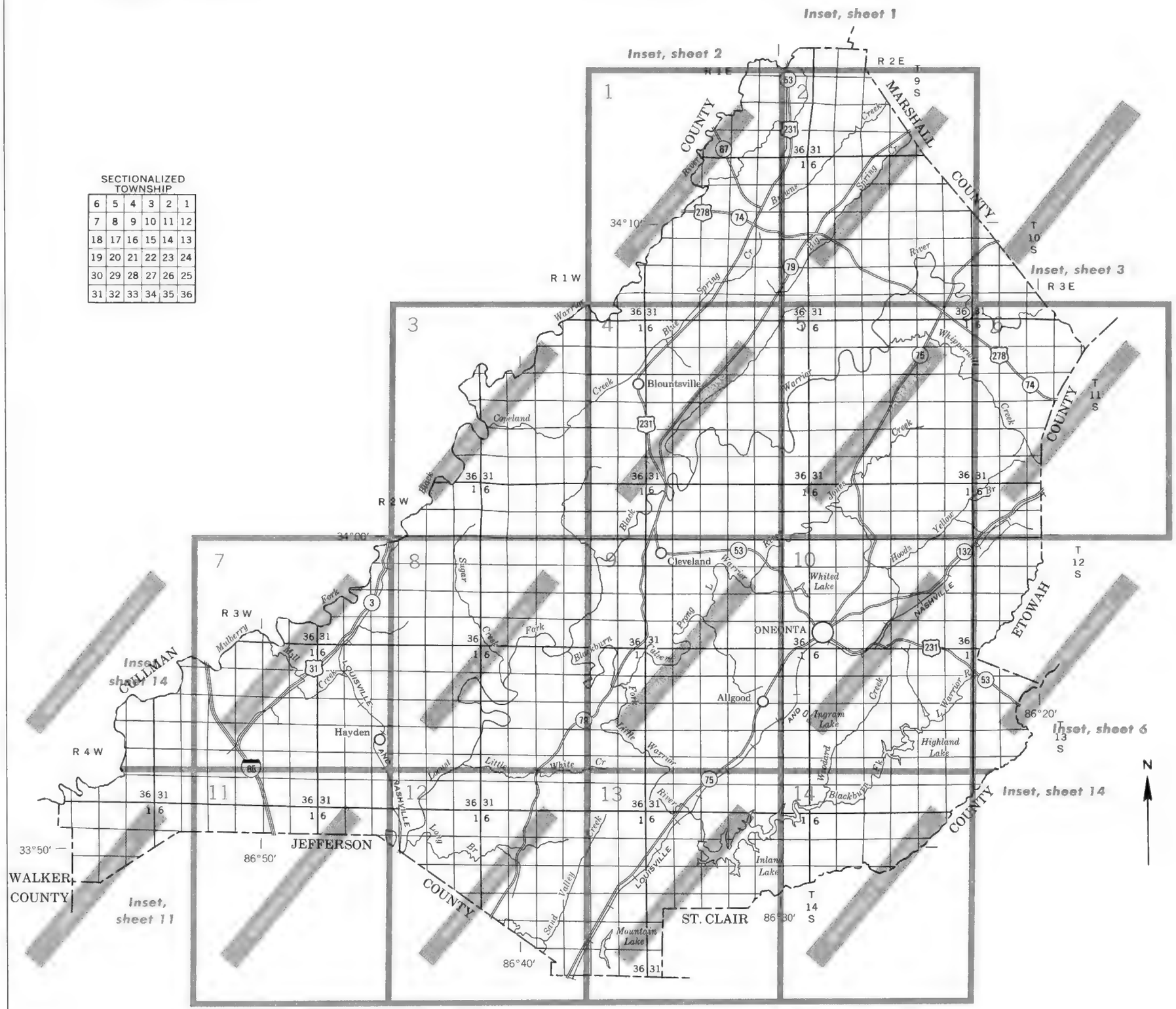
BLOUNT COUNTY, ALABAMA

Scale 1:253,440

1 0 1 2 3 4 Miles

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



INDEX TO MAP SHEETS

BLOUNT COUNTY, ALABAMA

Scale 1:253,440

1 0 1 2 3 4 Miles

SOIL LEGEND

SYMBOL	NAME
AbB	Albertville silt loam, 2 to 6 percent slopes
AbC	Albertville silt loam, 6 to 10 percent slopes
AbD	Albertville silt loam, 10 to 15 percent slopes
AeB	Allen loam, 2 to 6 percent slopes
AeC	Allen loam, 6 to 10 percent slopes
AeD	Allen loam, 10 to 15 percent slppes
AeE	Allen loam, 15 to 25 percent slopes
Bc	Barfield-Rock outcrop complex
BdC	Bodine cherty silt oam, 6 to 15 percent slopes
BdF	Bodine cherty silt loam, 15 to 45 percent slopes
Cr	Crevasse loamy fine sand
DcB	Decatur oam, 2 to 6 percent slopes
DcC	Decatur loam, 6 to 10 percent slopes
DtC2	Decatur silty clay loam, 4 to 15 percent slopes, eroded
Ee	Ellisville silt loam
En	Ennis cherty silt loam
FtB	Fullerton cherty silt loam, 2 to 6 percent slopes
FtC	Fullerton cherty silt loam, 6 to 10 percent slopes
FtD	Fullerton cherty silt loam, 10 to 15 percent slopes
Ha	Hamblen loam
HcB	Hanceville loam, 2 to 6 percent slopes
HcC	Hanceville loam, 6 to 10 percent slopes
HeB	Hartsells fine sandy loam, 2 to 6 percent slopes
HeC	Hartsells fine sandy loam, 6 to 10 percent slopes
HnD	Hartsells-Hector complex, 6 to 15 percent slopes
HrC	Hector-Rock outcrop complex, 2 to 10 percent slopes
HrF	Hector-Rock outcrop complex, 10 to 45 percent slopes
LaA	Leadvale silt loam, 0 to 2 percent slopes
LaB	Leadvale silt loam, 2 to 6 percent slopes
LeC	Linker fine sandy loam, 6 to 10 percent slopes
LeD	Linker fine sandy loam, 10 to 15 percent slopes
LhC	Linker-Hector complex, 2 to 10 percent slopes
Lo	Lobelville cherty silt loam
MnB	Minvale silt loam 2 to 6 percent slopes
MnC	Minvale silt loam, 6 to 10 percent slopes
MtD	Montevallo-Townley complex, 6 to 15 percent slopes
MtF	Montevallo-Townley complex, 15 to 45 percent slopes
NeB	Nectar silt loam, 2 to 6 percent slopes
NeC	Nectar silt loam, 6 to 10 percent slopes
NeD	Nectar silt loam, 10 to 15 percent slopes
Pr	Palmerdale very shaly silt loam
ReB2	Remlap silty clay loam, 2 to 6 percent slopes, eroded
ReC2	Remlap silty clay loam, 6 to 10 percent slopes, eroded
ReD2	Remlap silty clay loam, 10 to 15 percent s opes, eroded
Sa	Spadra fine sandy loam
StB	Stemley cherty loam, 2 to 6 percent slopes
Ta	Taft silt loam
TnB	Townley silty clay loam, 2 to 6 percent slopes
TnC	Townley silty clay loam, 6 to 15 percent slopes
Tu	Tupelo silt loam
Wa	Wehadkee soils
WnB	Wynnville fine sandy loam, 2 to 6 percent slopes

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool (Davis Airstrip; FLOOD POOL LINE)

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEMS & DESIGNATIONS

- Interstate (75)
- Federal (411)
- State (52)
- County, farm or ranch (378)

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small (water; w)

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) (Indian Mound)
- Located object (label) (Tower)
- Tank (label) (GAS)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) (CANAL)
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial (water; w)
- Intermittent (int; i)

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS (CeA; FoB2)

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 1
BLOUNT COUNTY, ALABAMA

770 000 FEET
805 000 FEET
815 000 FEET
1 548 000 FEET
1 540 000 FEET
1 552 000 FEET
1 510 000 FEET
800 000 FEET
R. 1 E.
R. 2 E.
R. 1 W.
86° 30'
86° 26'30"
86° 37'30"
34° 15'
34° 15'30"
34° 07'30"
T. 9 S.
T. 10 S.
(Joins sheet 2)
(Joins sheet 4)
2000 AND 5000-FOOT GRID TICKS

CULLMAN COUNTY
MARSHALL COUNTY
Warrior River
Black Fork of Mulberry
Mulberry Fork of Warrior River
Copeland Creek
Rosewell Creek
Blue Springs Creek
Big Spring Creek
Candy Hollow Branch
Pond Creek
Hopewell
Hopewell Church
Rock Springs
Rock Springs Church
Bethlehem Church
Rosewell Creek Ch
Blue Springs
New Lebanon Church
Mt. Hebron Ch

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 1

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 2
BLOUNT COUNTY, ALABAMA

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 2

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 3
BLOUNT COUNTY, ALABAMA

730 000 FEET
1 500 000 FEET
1 515 000 FEET
845 000 FEET
1 505 000 FEET
855 000 FEET
1 460 000 FEET
760 000 FEET
86° 37'30"
34° 07'30"
86° 22'30"
34° 00'
86°45'
T. 10 S.
T. 11 S.
T. 12 S.
R. 3 E.
R. 2 W.
R. 1 W.
15'
(Joins sheet 2)
(Joins sheet 5)
(Joins sheet 4)
(Joins sheet 8)

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10 000 Feet
Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 3

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 4
BLOUNT COUNTY, ALABAMA

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 4

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

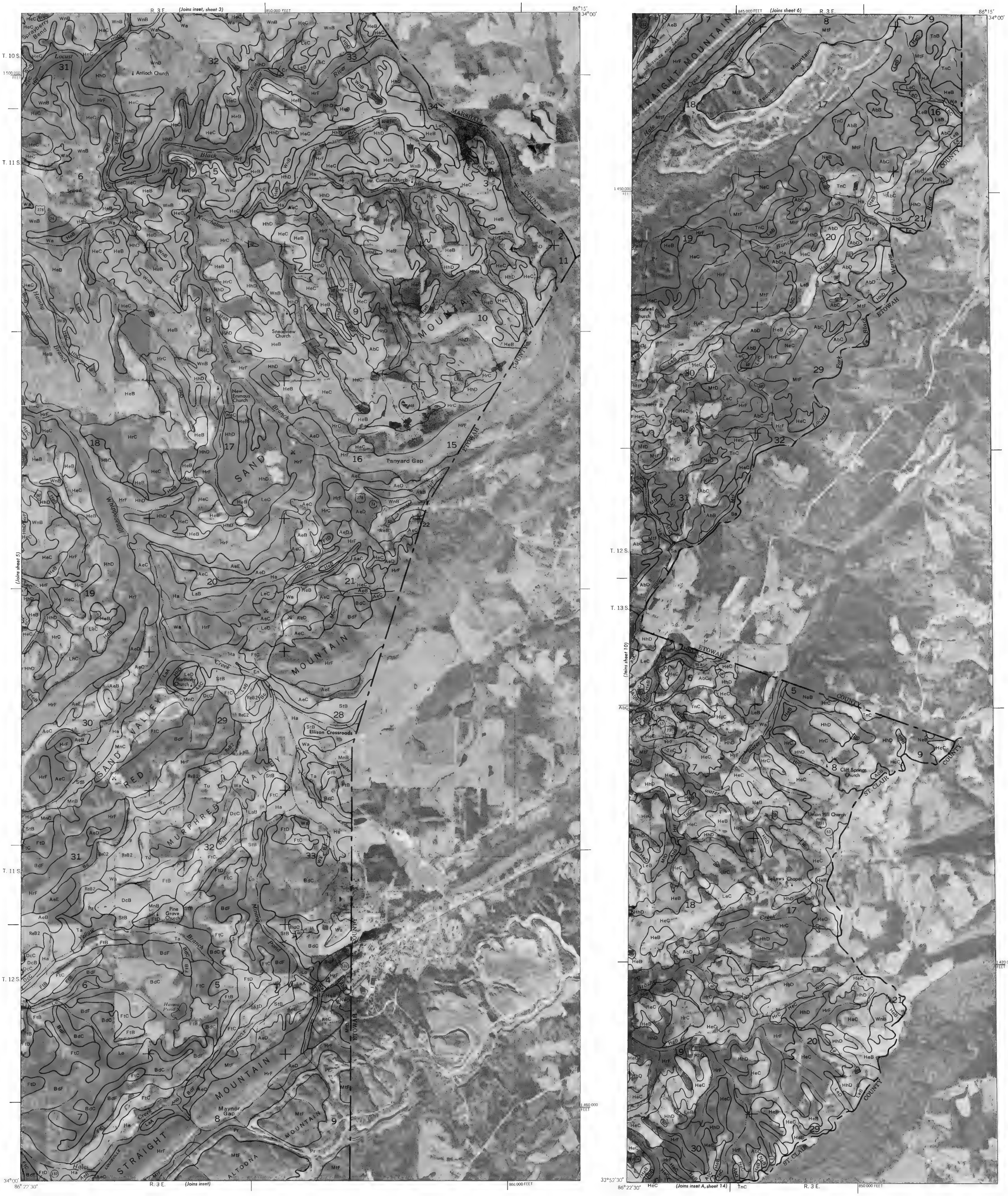
SHEET NUMBER 5
BLOUNT COUNTY, ALABAMA

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

BLOUNT COUNTY, ALABAMA NO. 5

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 6
BLOUNT COUNTY, ALABAMA



This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

5000-FOOT GRID TICKS

BLOUNT COUNTY, ALABAMA NO. 6

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 7
BLOUNT COUNTY, ALABAMA

690 000 FEET

86°45'
34° 00'

1 450 000 FEET

T. 12 S.

T. 13 S.

1 420 000 FEET

33°52'30"
86°52'30"

720 000 FEET

R. 3 W.

R. 2 W.

(Joins inset B, sheet 14)

(Joins sheet 8)

(Joins sheet 11)

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 Scale 1:24000 5000 10000 Feet

BLOUNT COUNTY, ALABAMA NO. 7

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 8
BLOUNT COUNTY, ALABAMA

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 8

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 9
BLOUNT COUNTY, ALABAMA

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 9

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 10
BLOUNT COUNTY, ALABAMA

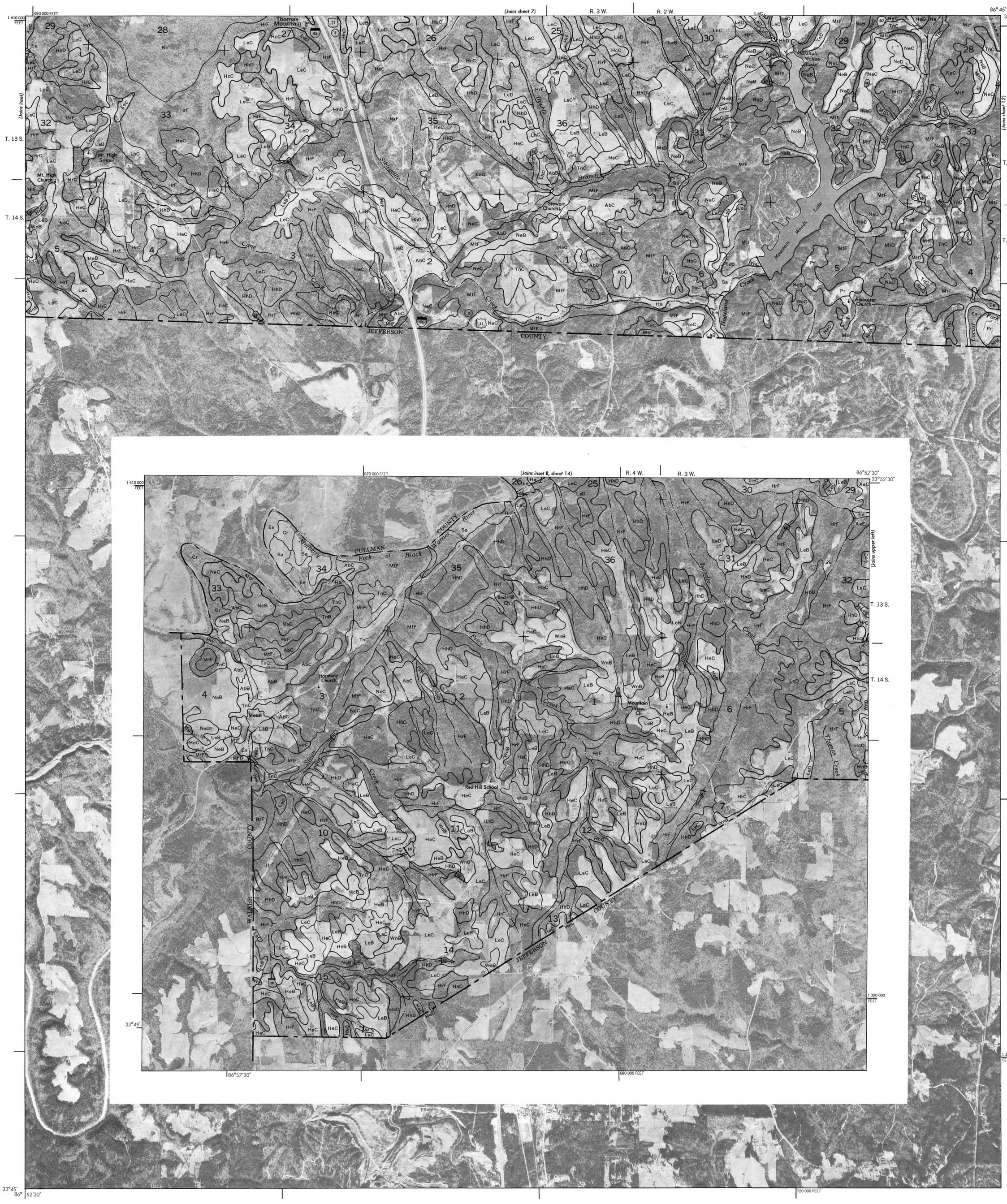
This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 10

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 11
BLOUNT COUNTY, ALABAMA



This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 11

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 12
BLOUNT COUNTY, ALABAMA

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

BLOUNT COUNTY, ALABAMA NO. 12

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 13
BLOUNT COUNTY, ALABAMA

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

1 ¾ ½ ¼ 0 1 2 Miles
5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET NUMBER 14
BLOUNT COUNTY, ALABAMA

This map was compiled by U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies on 1975 orthophotography obtained from U.S. Department of the Interior, Geological Survey.

Scale 1:24000 (1 ¾ ½ ¼ 0 1 2 Miles; 5000 4000 3000 2000 1000 0 5000 10000 Feet)